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THE MUNICIPAL INDEX AND ATLAS, used in connection with the current advertisements in THE AMERICAN CITY, places local officials in the most favorable position to obtain all types of available equipment and supplies from manufacturers who desire to serve municipal government departments. THE MUNICIPAL INDEX AND ATLAS (751 pages) is published annually by AMERICAN CITY MAGAZINE CORPORATION, 470 Fourth Avenue, New York 16, N. Y.

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1,125,000 POUNDS PER HOUR of feed water are pumped by three BJ Boiler Feed Pumps in the operation of this magnificent 65,000 KW Steam turbine-generator set (Manufactured by Westinghouse)... at the City of Los Angeles Harbor Steam Plant.

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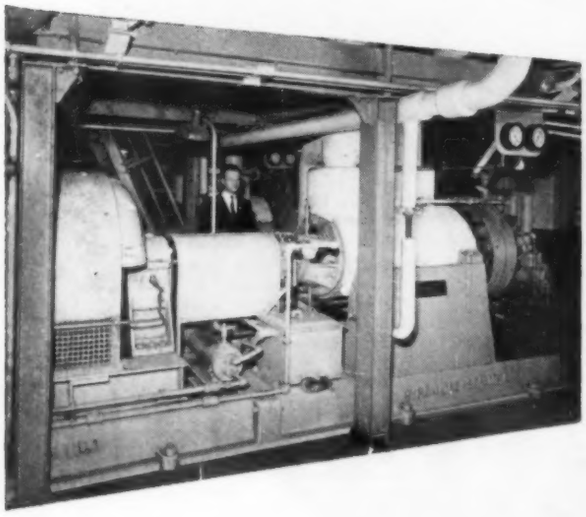

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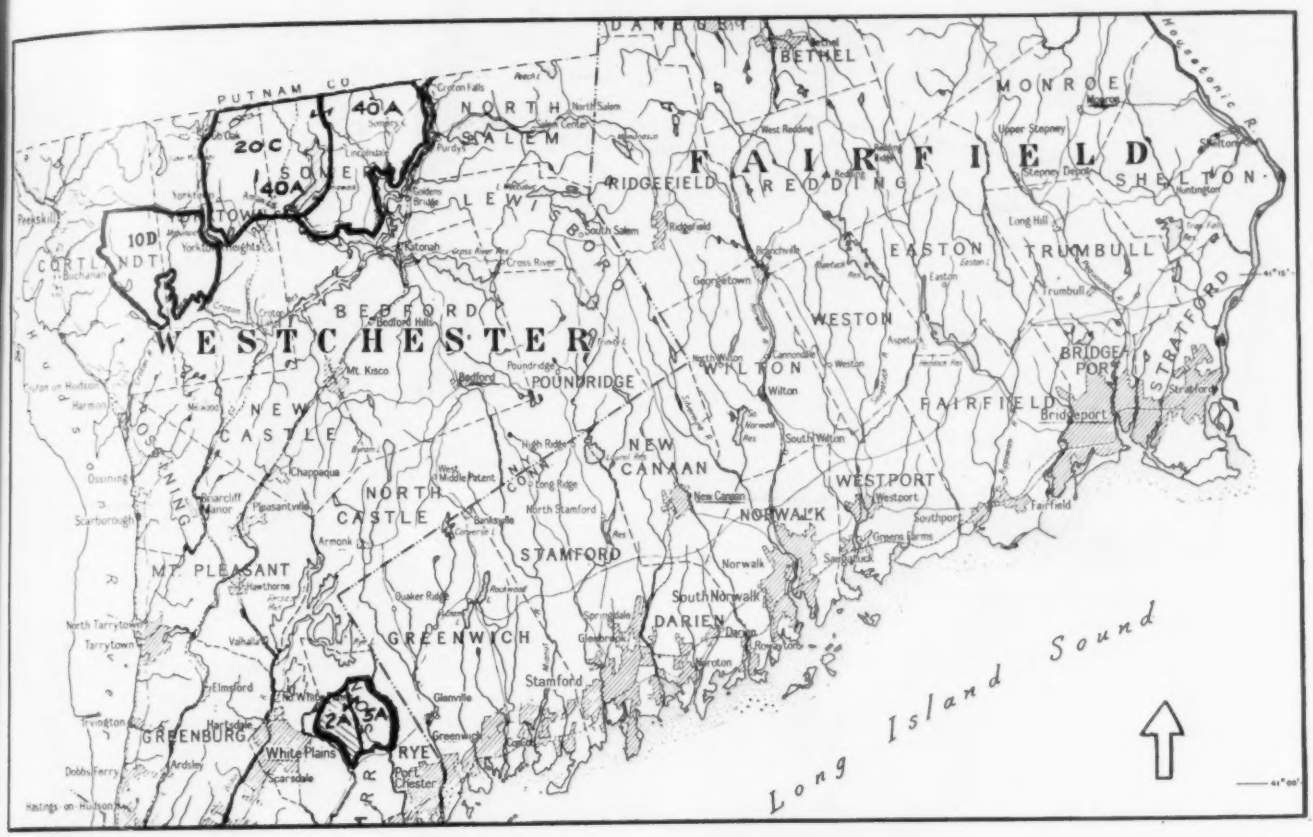
United Nations Headquarters—Where?



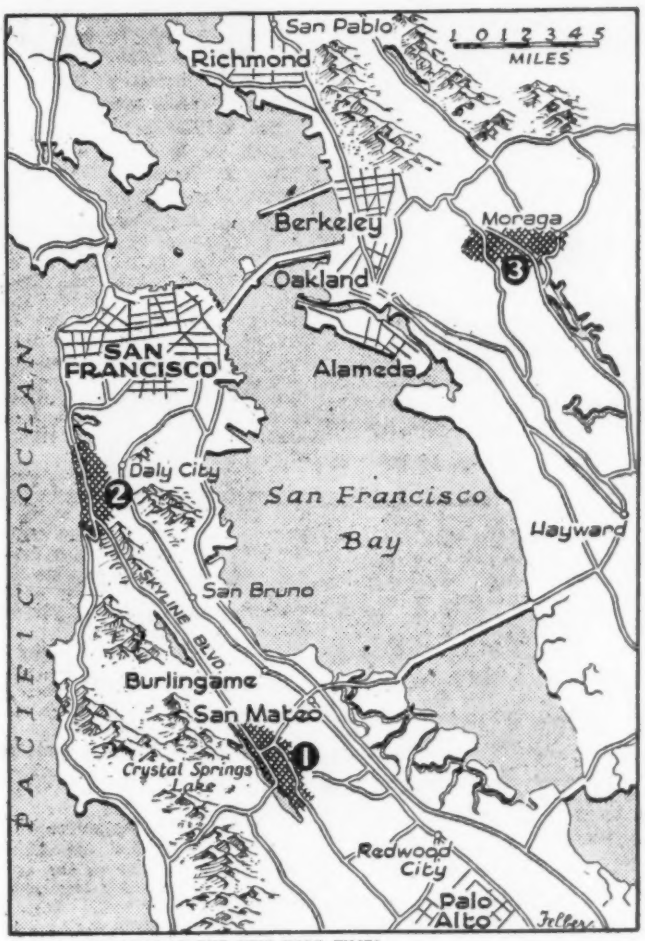
Headquarters Commission Reports to General Assembly

RESULTS of an exhaustive study of possible sites in Westchester County, N. Y., and Fairfield County, Conn., prepared by the Planning Staff of the Headquarters Commission of the United Nations for submission to the General Assembly, were made public on October 22.

During the four days prior to release of this report, strong bids were made by the City of New York for acceptance of the former World's Fair site (see front cover and pages 83 and 84 of this issue) as the permanent headquarters of the United Nations, and by a delegation from San Francisco which offered U.N. a choice of three large sites in the Golden Gate area. In the accompanying map the shaded patches show the approximate area of these tracts, each of which is about ten square miles.

As the *New York Times* pointed out on October 21, the Golden Gate offer, like that of New York, is being presented in the belief that delegates to the United Nations will re-open the headquarters discussion some time during the General Assembly session starting October 23 at Flushing Meadow Park. In view of the vigorous opposition that has been expressed in many Westchester towns against the establishment there of a United Nations headquarters, it is

(*Continued on page 137*)



MAP BY COURTESY OF THE NEW YORK TIMES

ABOVE: *The five proposed sites for the United Nations headquarters in Westchester County, N. Y.* RIGHT: *The San Francisco sites: the Crystal Springs Lake area* (1); *the "Skyline" site* (2); *and the Moraga Valley district* (3).

Recipe for Good Telephone Service

Take four Ms and a W: Men and Women, Money, Management and Materials

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Add a dash of Enthusiasm

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BELL TELEPHONE SYSTEM

Our Municipal Notebook

Watch the CO_2 Content

A DROP of 4% in the CO_2 content would increase our fuel consumption about 6% which would mean a loss of $28,000 a year," remarked a plant superintendent.

To permit such a drop shows rule-of-thumb operation. To avoid it requires either continuous tests in the plant or the use of a CO_2 recorder. Only the larger plants are likely to make the tests, but any water-works or municipal steam-electric plant can have a CO_2 recorder. The instrument usually pays for itself through fuel savings in a short time. It shows almost instantaneous fluctuations in the CO_2 content in the flue gases, permitting the operator to keep the fuel-air ratio at the predetermined setting to give the maximum operating economy.

The higher the CO_2 content the better the combustion, but it must not be too high or the heat will become dangerous to the furnace-boiler foundations. Too low a proportion of CO_2 means an excess of air, a dissipation of heat in heating this air instead of the water in the boiler, and a waste of coal.

Have you CO_2 recorders in your city's steam plants?

W. F. SCHAPHORST
45 Academy St.
Newark, N. J.

Lighting and the Traffic Problem

FOR MANY YEARS traffic experts have been making exhaustive surveys of the traffic situation and have been offering a variety of solutions to the problem. Very few, however, have put their finger on the one salient factor—the fact that America has extracted tremendous benefits from the motor vehicle but has failed to put part of its profits back into the necessary operational maintenance. Much-needed traffic facilities include adequate roadways for safe operation, modern street-lighting facilities, and traffic control facilities.

The roadway which was built to accommodate the comparatively light passenger automobile now is expected to handle fleets of buses, still larger fleets of trucks, and passenger automobiles used for a variety of business purposes in addition to pleasure driving. Most highways are just as dark as they were in the early days of the automobile when night traffic was only a small fraction of the present volume and driving conditions were entirely different. When these facts are considered one can understand how American traffic killed 28,500 citizens in 1945 and why it is likely to demand close to 35,000 lives this year.

America must make an honest effort to combat its traffic problem by pouring a larger share of traffic's profits back into a system of highways that will afford a segregation of vehicles. Adequate provisions must be made for pedestrians in rural areas so that they will not have to compete with motor vehicles. Most important of all, the nation's traffic highways must be lighted with modern traffic safety lighting in order that night traffic may have standards of safety comparable with those of day traffic.

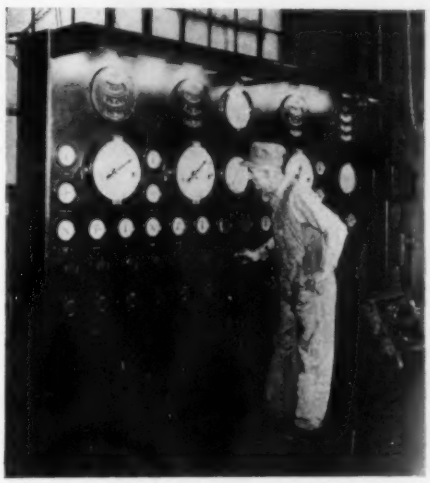


PHOTO BY LEEDS AND NORTHRUP COMPANY

Examining the CO_2 recorders on the boiler board in an Ohio power station.

Story Telling in the Parks

L. C. WILSEY, supervisor of recreation for the Essex County Park Commission, has written to the Montclair, N. J., Library to express appreciation of the story telling done in Montclair parks this summer under direction of the Library. Mr. Wilsey says, "This is a service which libraries are particularly equipped to perform and one which our playleader staff is not trained to render; so that the cooperation you gave was especially helpful."

The member of the Library Staff who told stories at the parks this summer was Miss Margaret Davis, and it is to be hoped that she will tell at least a thousand and one more.

The Strangest Street

KNOWN as the most unusual street in America, Main Street of Valley City winds southward through the southernmost tip of Texas to the mouth of the Rio Grande, linking forty-two suburban cities and towns into a single metropolitan area without one cramped, congested center.

Valley City is the metropolitan area, consisting of three counties: Cameron, Hidalgo, and Willacy. Main Street is the principal highway that passes through most of the cities and towns. Some 75 miles long and 40 miles wide, the area has a total population of approximately 250,000 people, 185,400 of whom live along Main Street.

The three principal cities within Valley City are McAllen, Harlingen, and Brownsville; 119,095 people live within 10 minutes of some of them, and 152,509 within 20 minutes.

A true delta, the valley is the richest agricultural area in the South. From the citrus groves on either side of Main Street come 40% of America's grapefruit. Last year the acres of green vegetables yielded $132,386,000 in farm income for three counties, more than 10% of the total for all of Texas. One hundred thousand bales are gathered annually from the broad cotton fields.

Out of every 100 Texas retail dollars, $2.14 are spent on Main Street in Valley City. It is not only a strange street; it is a major market as well.

Untinted Vistas

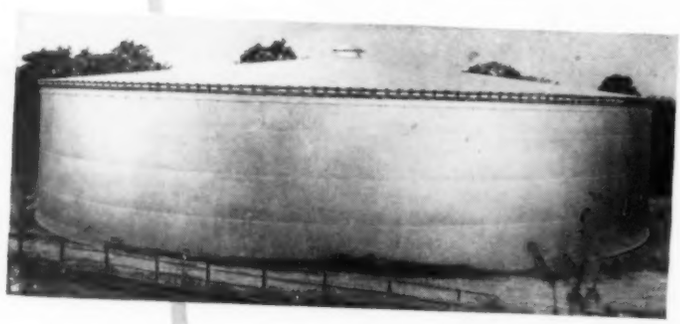
CALIFORNIA motorists will have to content themselves with untinted landscapes or trade in their colored windshields for sun glasses. The law frowns on the use of colored glass in windshields, wind-wings, and rear windows, and the Los Angeles Police Department has warned owners that the current fad will have to go.

Deputy Chief B. R. Caldwell, Director of Traffic, noted that the California Vehicle Code approves only clear glass for use in vehicles. Strict enforcement has been put into effect; however, only vehicles registered in California are involved.

Police also reminded motorists that fatal traffic accidents in Los Angeles are at the peak betwen midnight and 1 a.m. Through July, traffic fatalities were up 23.8% over 1945, and pedestrian deaths had risen 29.1%.

another 4,000,000-gal. STEEL RESERVOIR

Two 4,000,000-gal. Horton steel reservoirs supplement elevated water storage tanks and standpipes in the water distribution system serving the Maryland suburban area adjacent to Washington, D. C.



★ The Washington Suburban Sanitary Commission utilizes elevated tanks, standpipes and steel reservoirs in its water distribution system. The photos on this page show two 4,000,000-gal. Horton steel reservoirs which we fabricated and erected for the commission at Wheaton, Md. The one illustrated above, erected this year, is 151 ft. in diam. by 31 ft. It was fabricated and pickled at our Greenville, Pa. plant. The reservoir shown below is also 151 ft. in diam. by 31 ft. It was placed in service in 1939. Both are of butt-welded construction. Special architectural features are a low-pitch cone roof and an ornamental cornice which embellishes the otherwise plainness of the construction.

Where topography permits, *welded steel* reservoirs are often practical for providing gravity pressure in a municipal water system. They have several advantages. Steel will not crack or develop leaks if there is uneven settling. The welded joints are tight and stay water tight. Maintenance costs are low, for regular painting inside and outside keeps the steel in good condition.

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San Francisco 11.....1233-22 Battery St. Bldg.
Philadelphia 3.....1616-1700 Walnut St. Bldg.
Atlanta 3.....2114 Healey Bldg.
Washington 4.....703 Atlantic Bldg.
Detroit 26.....1501 Lafayette Bldg.

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

Water Supply and Treatment

"Water Use," Not "Water Consumption"

WHEN ONE considers the matter, it is perfectly obvious that only an infinitesimal proportion of the water in a municipality is "consumed." The rest is "used." We find the lawyer, rather than the engineer, driving this point home most convincingly (see "Sewer Revenue Financing," by R. L. Mitchell, page 121).

For many years the difference between water and sewage works has been great enough to make them virtually independent professions. The water works man has assumed the obligation of collecting a supply of water, treating it to meet certain standards, and delivering it to the property line of whoever desires the service. A few, anxious to give more complete service, assume the responsibility of delivery as far as the customer's meter. What happens thereafter is of no particular concern to them. For their purposes a quantity of water is "consumed." As far as they are concerned, it is evaporated, transpired, destroyed, never to return. Similarly the sewage works man apparently assumes that the sewage bubbles forth from each residence or commercial establishment like an everlasting spring. He takes what each delivers, often not without a certain amount of protest that the sewage is too acid, too alkaline, too voluminous or is possessed of some other disagreeable characteristic, and disposes of it in one way or another, not always in strict accordance with a standard as exacting as the waterworks. Sewage works men do not agree on their standards with the same degree of completeness as do water works men.

As Mr. Mitchell has so ably pointed out, the customer merely receives the offering of the water works man, uses it momentarily, and passes it along to the sewage works man. He actually does no more to the water than to add one or two tenths of one percent of objectionable material, as the sanitary profession knows it, during this process of "use." And around this small increment revolve all the profound technical papers, speeches, articles, and books devoted to sewage treatment.

As Attorney Mitchell emphasizes, water and sewage works combine to form one inseparable service. A water works without some method of sewage disposal is ridiculous. And similarly a sewage works without a water supply is inconceivable. Thus follows the conclusion that since rates based on the volume of use may be established to pay for the construction and operation of a water supply, these same rates based on volume of use may be again employed to pay for the sewage works.

The conception of "water use" is apparent in this line of reasoning. It will replace the anachronism, "water consumption," henceforward.

No Relation

"This is an R. D. Wood gate valve," explains A. Baldwin Wood, right, general superintendent of the New Orleans Sewerage and Water Board, "but R. D. Wood is no relation of mine." Superintendent Wood pointed this out to New Orleans' recently elected reform mayor DeLesseps Morrison, left, who believes in learning how this city's services are operated by means of first-hand inspections.

Automatic Backwash Filter Shows High Efficiency

A DUAL job is being accomplished by the Hardinge automatic backwash rapid sand filter, which has been operating in the plant of the Newton Falls Paper Co. at Newton Falls, N. Y., since January 1, 1946. The filter provides the town's water supply as well as all the raw water for the paper mill.

The filter has an area of 1,125 square feet and a capacity of 2 gallons per square foot per minute. The filter medium consists of a 10½-inch sand bed on 1¼-inch thick Aloxite porous plates. The water which is filtered is taken from a small river flowing through the town.

The raw water contains up to 20 ppm of suspended solids which are mainly clay and organic matter. Tests made of the filtered water show that 97.4% of the solids are removed.

The backwash mechanism operates automatically when the head on the filter builds up to a predetermined level. As soon as the head is reduced, the backwash mechanism stops. At the Newton Falls installation the mechanism operates about four times every twenty-four hours.

Honolulu Water Works Scrapes Off Camouflage

DURING the war many municipal service buildings were run down in appearance, mainly through the loss of manpower or inability to get replacement equipment; however, the water facilities serving Honolulu looked unkempt, not for these reasons, but because of Army and Navy orders. Arthur R. Tyler, Engineer for the Division of Water Works, pointed out in the recent annual report of the Department of Public Works that the Army and Navy had urged that weeds and other undergrowth be allowed to grow on all the department properties since they were the best natural camouflage. Some of the pumps had been painted with the typical garish pattern required under camouflage conditions, and this now must be removed.

Honolulu's water system has more reason, probably, than any other municipal activity to welcome the termination of the war. At the time hostilities ceased, the report further pointed out, demands had greatly exceeded the ability to supply, and there was no immediate prospect of any diminution. Too, consumption did not materially drop with the cessation of hostilities. Army consumption, it is true, noted an almost immediate decrease; but, since a large number of the districts already were operating under restricted use, the water afforded by the Army's removal merely allowed the removal of the restrictions. Today there is no adequate surplus of supply.

Ozonization Will Kill Polio Virus

OZONIZATION within the limits recommended for water treatment will inactivate the polio virus as effectively as chlorine or chlorine dioxide. This is one of the findings of G. M. Ridenour and R. S. Ingols of the University of Michigan School of Public Health, based on research aided by a grant from the National Foundation for Infantile Paralysis and described in an article in the June issue of the American Journal of Public Health. (See THE AMERICAN CITY, September 1946, page 135.)

Modern SEWAGE TREATMENT PLANTS ENCLOSED FOR PROTECTION

Your Sewage Treatment Plant CAN BE designed so that it is all housed in modern efficient buildings.

Consulting Engineers, Contractors, City Officials and many others interested in the latest equipment for sewage treatment plants are writing us for information on Eimco Continuous Vacuum Filters as used in dewatering Sewage Sludge.

Eimco installations in Baltimore, Md.; Cranston, R. I.; Great Neck, L. I.; East Chicago, Ind.; and in many other cities have proved the advantages of continuous vacuum filtration over sand drying beds.

Eliminate objectionable odors, conditions that form breeding places for disease carrying insects and provide a system that will easily and economically adjust itself for increased population for years to come by installing Eimco Continuous Vacuum filters for sludge dewatering.

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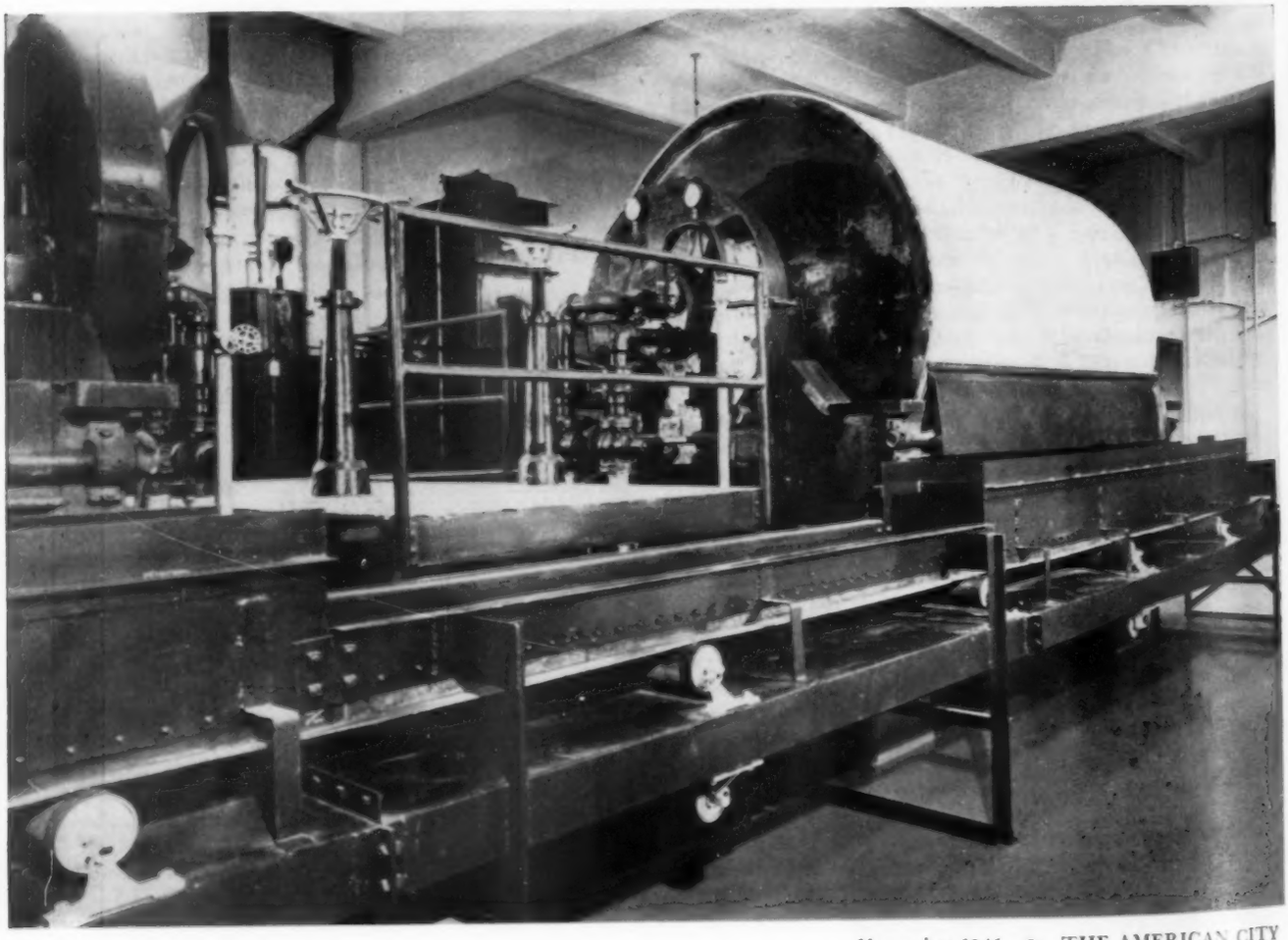


Three Countries Compare Notes

The Federation of Sewage Works Associations, with delegates from Great Britain, Canada, and the United States, discuss sewerage problems at the meeting in Toronto, October 7-9.

British Sewage Treatment Practices

INTENSIFICATION and mechanization are the two general trends in British sewage treatment practices. This was pointed out by John Hurley, General Manager, Sewage Purification Department, Wolverhampton, England, and president of the Institute of Sewage Purification in England. Mr. Hurley's paper was read by Dr. A. E. Berry, Director, Sanitary Engineering Division, Ontario Department of Health. The main factors in the British sewage practice are as follows:

1. *Screenings.* Fine screening with a ¼-inch bar opening is practically obsolete in British practice. An opening of 1½-2 inches in the screens is common for most medium plants. The screening of sludge has some support.

2. *Chemical precipitation and flocculation.* This is sometimes used as an auxiliary on an overloaded plant or to cope with an abnormal sewage. The use of sulphuric acid is common for grease recovery from wool wastes, and lime is also used for treating acid trade wastes.

3. *Primary sedimentation.* The British practice of a 6 to 8-hour detention period based on dry weather flow is rather high. However, British sewages are generally stronger than American; furthermore, the plants must provide treatment for three times the normal dry-weather rate, plus partial treatment up to six times dry-weather flow. The larger detention period has the advantage of ironing out sudden variations in sewage strength. Solids not removed while in the primary tanks crop up elsewhere; if not removed while in the secondary tanks, the solids appear in a sludge that is hard to dewater.

In discussing the paper, Dr. F. W. Mohlman, Director of Laboratories for the Sanitary District of Chicago, stated that the longer detention time is not actually much longer for British sewages of 50-60 gcd as compared with United States sewage with 150-300 gcd. On a per-capita strength basis, the detention capacities are about the same.

4. *Activated Sludge.* Besides diffused air, British practice uses several other methods. One is the Simplex, employing a spinner on the surface to effect aeration; a second, the Hawarth, uses paddle wheels on a long shaft; a third, the Hartly Spiroflow, uses inclined paddles; and a fourth, the Kessner Brush, uses brushes revolving in the sewage.

5. *Trickling filters.* Double filtration is a fairly recent development. It involves two filters operating alternately, with one filter leading off periodically to give the other a rest.

Recirculation has been practiced in England for many years. The English recirculation ratio is lower than the American. The rate, however, is limited by existing pumps rather than the operator's choice. Existing standard filter plants carry purification to a high degree of nitrification with 40-50 ppm being common. Higher recirculation rates in the return of the effluent to the primary tanks might lead to denitrification and gas lifting.

Enclosed aerated filters show a certain amount of promise. These filters employ air that is driven downward through them and show a treating tank effluent that is three times as effective as open filters. Experiments at Wolverhampton with this type have employed a filter 20 feet in diameter and 13½ feet deep.

Dr. Mohlman pointed out that the rates of filtration for these accelerated processes are only about 600 pounds BOD applied per acre-foot, a rate considered in the range of standard trickling filter loadings in the U. S. British standards apparently require nitrification, which is not present in American high-rate filters operated at from 1,000 to 3,000 pounds BOD removal per acre-foot.

Advantages of External Sludge Heating

EXTERNAL heat exchangers have a definite advantage over internal heating coils in the amount of heat per square foot of exchanger surface that can be transferred to the sludge but have a disadvantage in that the exchangers require a somewhat higher sludge temperature. This was pointed out in a paper prepared by Prof. H. J. Miles, University of Southern California, and delivered before the Federation of Sewage Works Associations in Toronto. Prof. Miles' paper was read by Dr. Willem Rudolfs, Chief, Department of Water and Sewage Research, New Jersey Agricultural Experiment Station, New Brunswick, N. J.

Another advantage of the external type is its accessibility. Piping can be arranged so that different exchangers can be used with the same tank, thereby avoiding the necessity of taking a digester out of service.

A. M. Rawn of the Los Angeles County Sanitation District has pointed out that external exchangers make it possible to "control the sludge temperature in any receptacle which will hold the sludge, whether earthen pit, lined retention chamber, unused tank, or basin."

External heat exchangers avoid the sudden temperature drops and the accompanying decrease in gas production noted in some digesters when unheated raw sewage is added.

How Environmental Sanitation Arouses Public Interest

TEN factors affecting the general public's interest in environmental sanitation were outlined by Dr. J. T. Phair, Deputy Minister of Health, Ontario, Canada, before the meeting of the Federation.

These factors were as follows:

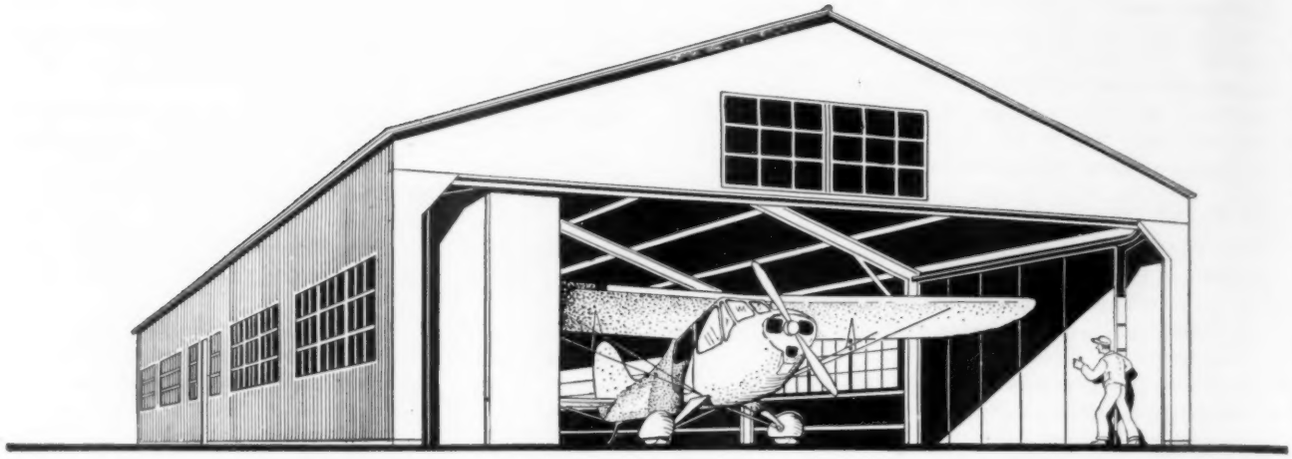
1. A general interest in public health lies primarily in the control of communicable diseases. Fear of plagues, which is fostered by superstition and ignorance, is a powerful motivating force. An innate sense of parental responsibility to children is another. Any health authority can make the front page on a police announcement. More people will queue up for vaccination in face of a few fugitive cases of small pox than for a much needed sewage treatment project.

2. Adequate disposal of refuse shares second place with sewage disposal in public interest. The average man is conscious of tangible irritants. He is sure that those things that are offensive to the senses are harmful. Stock yards, chicken-killing establishments, piles of ashes or scrap iron—all are to him health hazards. One can presume that complainants mask interest in property deterioration with

(*Continued on page 113*)

UTILITY HANGARS

by LURIA



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Refuse and Street Cleaning

Yonker's Collections Require Heavy-Duty Trucks

FWD truck being loaded with garbage in Colonial Heights, Yonkers, N. Y. Note the folded tarpaulin on top of the cab and broom tucked between the cab and body of this heavy-duty truck. The tarpaulin is used to cover the load, the broom to clean sidewalks.

YONKERS, New York's fifth largest city, is no place for lightweight garbage and refuse trucks. According to Commissioner of Public Works James J. Corbalis, Yonkers is known as the Terrace City because of its many hills and steep grades. Because of these hills, the "stop and go" at every building produces a high mortality rate among ordinary trucks used in the 22-square-mile refuse collection system, and results in very high maintenance charges. Consequently, he uses 34 FWD trucks in this service, 13 of which were purchased in 1934, 7 in 1935, 5 in 1936, 3 in 1937, and 6 in 1945. All are used constantly, and the oldest has traveled about 100,000 miles.

These trucks have a 14 cubic-yard open body and carry a mixed load of about 4 tons of ashes, rubbish, and garbage; when on straight ash collection they carry about 6 tons. They travel an average of 29 miles per day.

Oklahoma City Combines Hog Feeding, Sanitary Fill to Overcome Nuisance

OKLAHOMA CITY is experimenting with a combination of hog feeding and sanitary fill in an effort to overcome the nuisance created by the hog-feeding pens operated by Ralph Sullivant, and at the same time maintain the profitable revenue from the sale of garbage to the hog-feeder.

The present system guarantees the city $1,200 per month or 20% of the hog-feeding profit, whichever is the greater. The city forces deliver the mixed refuse; the hog feeder places it on a series of concrete slabs from which the hogs eat it. When the pigs lose interest in one platform and move onto the next, the workmen have in the past cleared the platform and burned the remainder on an open dump. Because the smoke and odor from this operation have caused north-side and west-side residents to complain bitterly, Sullivant and the city officials decided to try burying instead of burning the residue.

They drew up an amended contract which would amortize the cost of a pair of tractors and Bull-Clams to be used for filling. The amended contract provides that the equipment will belong to the city at the end of the contract. City Manager Gill feels that even if the experiment does not prove satisfactory and they find themselves forced into some other method of refuse disposal, they still will have plenty of use for the equipment.

Sullivant is feeding at present 3,000 hogs and is able to realize one pound per day increase in hog flesh.

Snow-Loader Doubles as Leaf-Loader in Rochester, N. Y.

THE SNOGO that is used to clean the streets of Rochester, N. Y., takes on an added task in the fall when gathering autumn leaves becomes a problem. This will be the third year that it has been picking up the leaves at a considerable saving in money and manpower.

The unit works with a tractor equipped with a pusher screen which gathers the leaves into piles along the curb ahead of the Snogo. The Snogo then takes the pile and shoots it into a waiting truck, making a dense, well-packed load.

Originally Rochester tried using its two conveyor-belt snow loaders but their operation was not particularly successful because leaves and grit got into the open working parts and caused breakdowns.

The Snogo was adapted for leaf gathering by Elmer Van Gelder of the Division of Maintenance and Operation, and Frank Rowe, also on the Rochester municipal staff.

PHOTO BY AL MCLAUGHLIN, THE DAILY OKLAHOMAN

Fill and cover methods for refuse not consumed by hogs replace an open burning dump to eliminate objectionable smoke and odors from Oklahoma City's disposal area.

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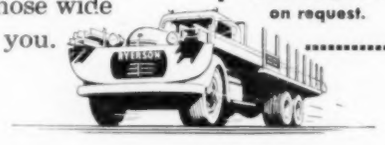


RYERSON STEEL

Public Safety

Texas Mayor Eats Crow

WHILE Dallas' Mayor Woodall Rodgers feasted on prime juicy beefsteak, Houston's Mayor Otis Massey gamely sampled a North Dallas corn-fed crow at the dinner symbolizing Houston's defeat by Dallas in the 1945 annal fire-loss contest.

In winning the fire prevention contest, Dallas decreased its fire losses by $300,000 and merited a 5% reduction in fire insurance rates. Dallas' insured losses for 1944 and 1945 were $1,348,824 and $1,089,679, a total of $2,438,503. For the same period Houston's insured losses were $1,143,962 and $1,422,473, a total of $2,566,435.

Estimated insured losses for the two cities from January through August of this year are: Dallas, $627,814; Houston, $693,271. For the month of September losses are estimated at $27,000 for Dallas and $50,000 for Houston.

The contest originated a few years ago at a luncheon in Dallas attended by the city officials, the press, and Jay Stevens of the National Board of Fire Underwriters. Mr. Stevens suggested the fire-loss contest between the two cities, with the mayor of the losing city eating crow. The press presented the challenge, and Houston officials readily accepted. The contest was for 1944 only, but failure to specify whether it would be based on total or insured losses resulted in both cities winning according to their own interpretation.

Early in 1945 Dallas and Houston officials formulated a five-year contest program based upon insured losses as reported by insurance companies to the State Fire Insurance Commissioner in Austin. Official figures for 1946 will not be issued until March 1947, and the banquet will be held during the summer.

PHOTO BY DENNY HAYES

Mayor Rodgers of Dallas (left) enjoys steak while Mayor Massey of Houston (right) cuts into corn-fed crow at the dinner celebrating Dallas' victory in the 1945 fire-loss contest.

For Greater Safety during Outdoor Assembly

AMONG the safety features stressed in the "American Standard Requirements for Grandstands, Tents, and Other Places of Outdoor Assembly" are construction and capacity of grandstands, location and flameproofing of tents, adequate exits, and lighting.

Smoking, fireworks, or unapproved open flames are prohibited in tents occupied by the public. Motion picture film should not be displayed in a tent unless safety film is used. Ground enclosed by tents and ten feet of adjacent area should be cleared of all flammable material or vegetation which will carry fire. All places of outdoor assembly should have ample and unrestricted access to public ways of approach from at least two points, removed from each other.

Electrical systems for places of outdoor assembly should be properly installed and maintained. If portable, the electrical system should be inspected daily when in use and any defects corrected before the public is admitted to the performance. The system should be isolated from the public by proper elevation or guarding, and the electrical fuses and switches should be enclosed in approved casing.

It is recommended that storage and handling of flammable liquids or gases be in compliance with the standards of the National Fire Protection Association; that police and fire details be arranged in advance of each performance; and that fire-extinguishing equipment be provided and maintained by properly trained employes. One or more methods of fire alarms and emergency communication should be arranged by the owner.

Screw Drivers and Screw Jays

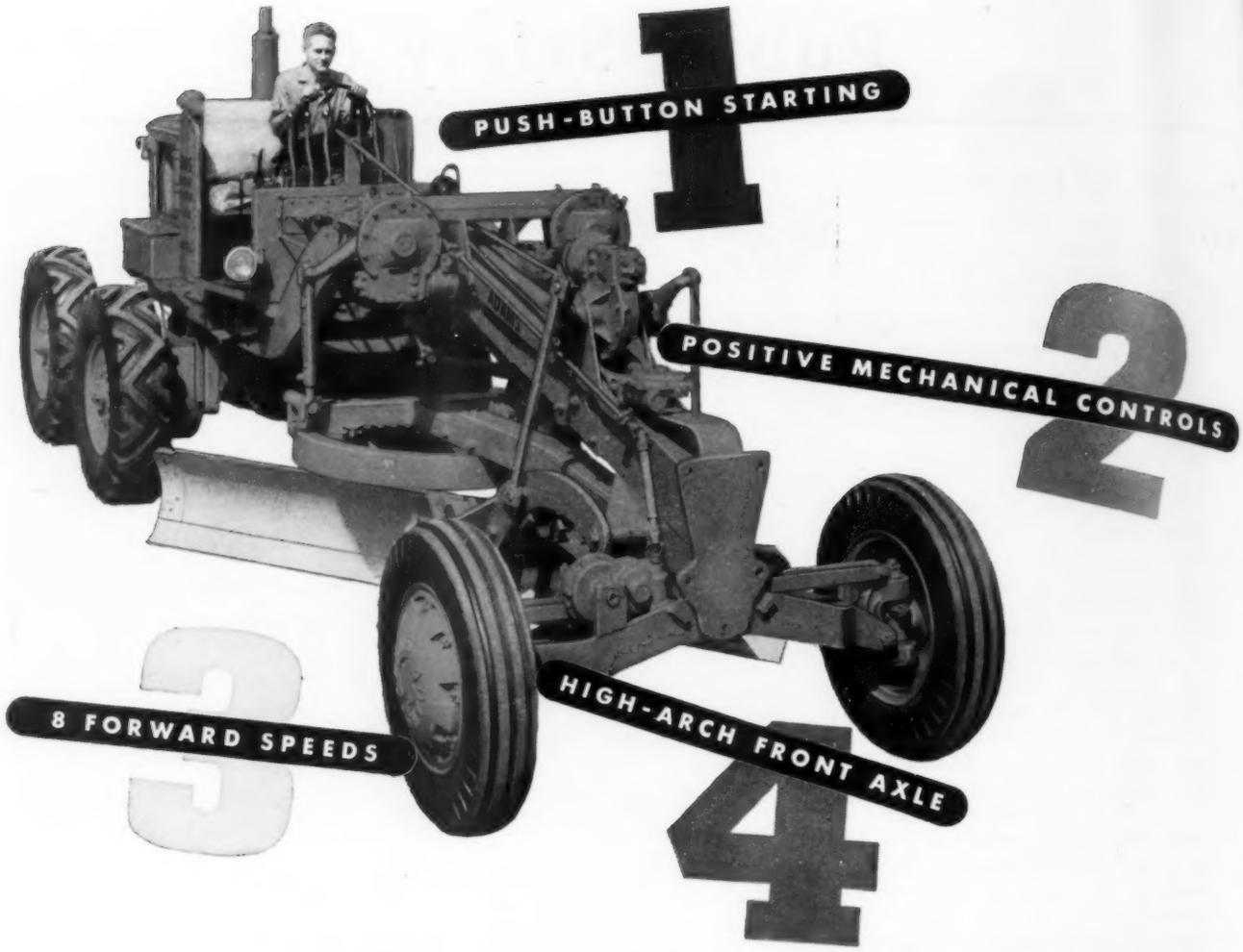
"SCREW Drivers and Screw Jays," a safety film designed to correct the habits of selfish, heedless drivers and careless pedestrians, has been produced by the Shell Oil Company, Inc., as a contribution to the cause of accident prevention.

Narrated by Lew Lehr, noted funnyman, and Don Wilson, Hollywood radio announcer, the film dramatizes common-sense safety rules sponsored by the National Safety Council.

"Screw Drivers and Screw Jays" marks a departure, in films of this kind, from gory pictures of blood and wreckage and depends for its effect on constant chuckles. The premiere was held in Washington in September.

Putting Out Grass Fires

GRASS fires in Stratford, Conn., totaled 511 this year compared with 341 in 1945. Asked how the fires were handled, Fire Chief Allen D. Judson stated that there are booster tanks on all of his trucks and that he also uses Indian fire pumps. One truck carries 300 gallons of water, another 275 gallons, and the others have 150-gallon booster tanks.



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Street Construction and Maintenance

Asphalt Plant Score Card

ONE OF THE soul-searing experiences of engineers and other municipal officials in charge of street construction has been that of being forced to reject the bids of contractors with fine, modern equipment and award a contract to a bidder with an antiquated and unreliable plant. Specifications unfortunately give no latitude when calling for equipment—either it is acceptable or it is not.

This fault in the system of bidding is a real one, particularly in asphalt construction. Good equipment and good operation make a world of difference in the street that the city gets from the contractor. From ten to twenty years of additional life can be built into streets by good construction—a fact that overbalances low bids.

Consequently, the method of scoring asphalt plants (see p. 109) and intelligently measuring their quality is of immense importance to municipalities in insuring the desired long life of their pavements. Mr. L. D. Long of the Newark Testing Laboratories, Newark, N. J., the author of this article, has drawn on his rich background in the field of asphalt construction to weigh the relative values of each part of the plant. By totalling the merits of these parts the engineer can accurately judge its quality.

Obviously, also, a good plant can produce a denser, and consequently a longer-lived street, than can a poor plant. Mr. Long charts the density that each type of plant can produce and gives the engineer a guide in designing his mix so that he can capitalize on the good equipment and guard against the vagaries of the poor.

Municipalities should be indebted to Mr. Long for this significant contribution. It should mean better streets with longer life and service.

Des Moines Studies Street Damage Attributed to Trolley Buses

DES MOINES, Iowa, is making a study of the damage to city streets that trolley buses might cause, in order to determine an equitable sum that the trolley-bus operators should pay for this damage. It is believed to be the only city making such an investigation.

The work will be based on analyses of traffic counts covering the number and weight of vehicles using a roadway and matching these against fatigue studies made on concrete and asphalt bases for various loadings. In this way the investigators hope to evaluate the destructive force of all heavy vehicles. The study should be completed by January 1.

At present the transit company pays the city 2.75% of its gross income plus a fee of $65 for each coach.

The committee making the study, appointed by the mayor, consists of Munroe L. Patzig of the Patzig laboratories; John A. Burriss, civil engineer; W. L. Wilson, Chief Engineer, Des Moines City Railway Co.; Bert Myers, construction engineer, Iowa Highway Commission; and J. M. Tippee, city engineer, who is chairman of the committee.

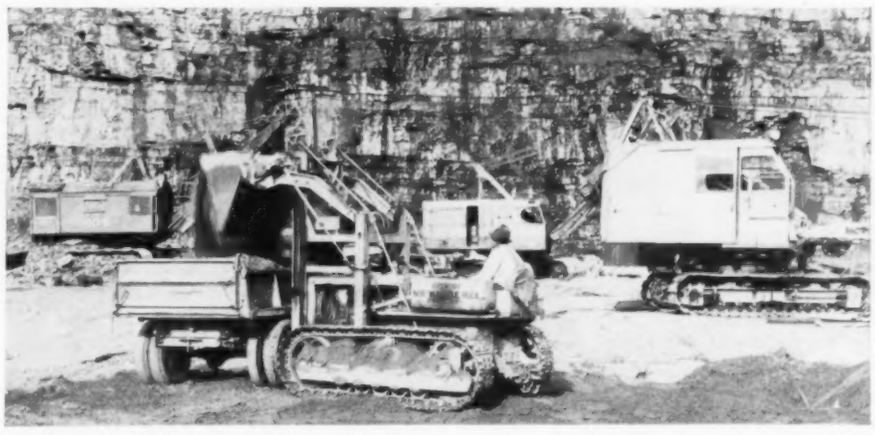
New Distributors Speed Cleveland Program

The city of Cleveland, Ohio, owns two of these Macks equipped with steel bituminous spreaders. Tanks are of 1,250-gallon capacity. Cleveland's $4,000,000 street program is demanding heavy-duty work of these rigs for new asphalt construction and maintenance.

Efficient Handy Man

STREET equipment, to be an economical servant to a municipality, should be kept busy all the time. The tractor-mounted elevating bucket used by North Little Rock's street department is a good example.

W. I. Roe, street commissioner, states that he uses it for loading gravel, removing windrows of dirt from the streets, digging and loading stumps, laying large-sized concrete pipe or metal pipe for culverts, and doing any necessary backfill work on sewer lines. The equipment consists of a Traxcavator mounted on a D-4 Caterpillar tractor and has been in use for about three years without a major breakdown.



North Little Rock has plenty of work for this tractor elevator.

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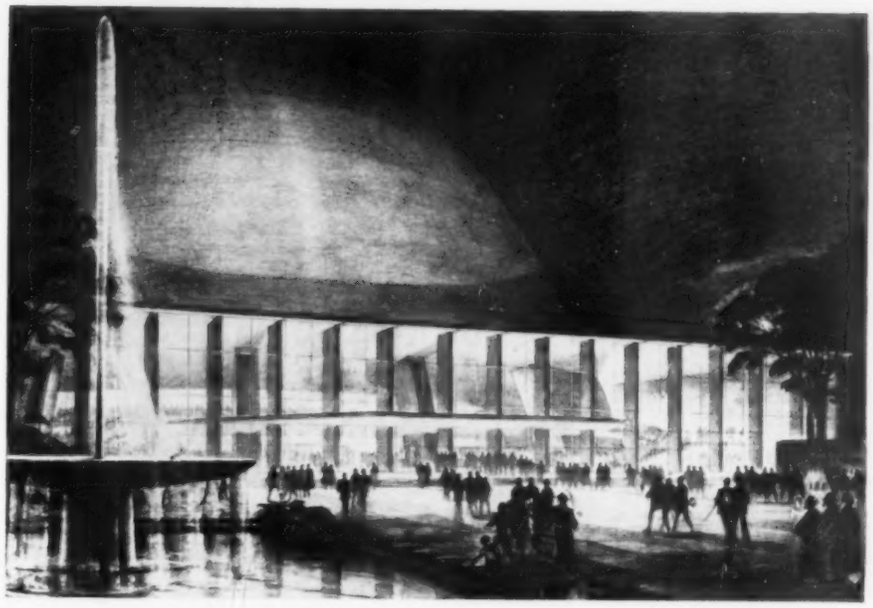
Vol. LXI, No. 11 · **The American City** *November* 1946

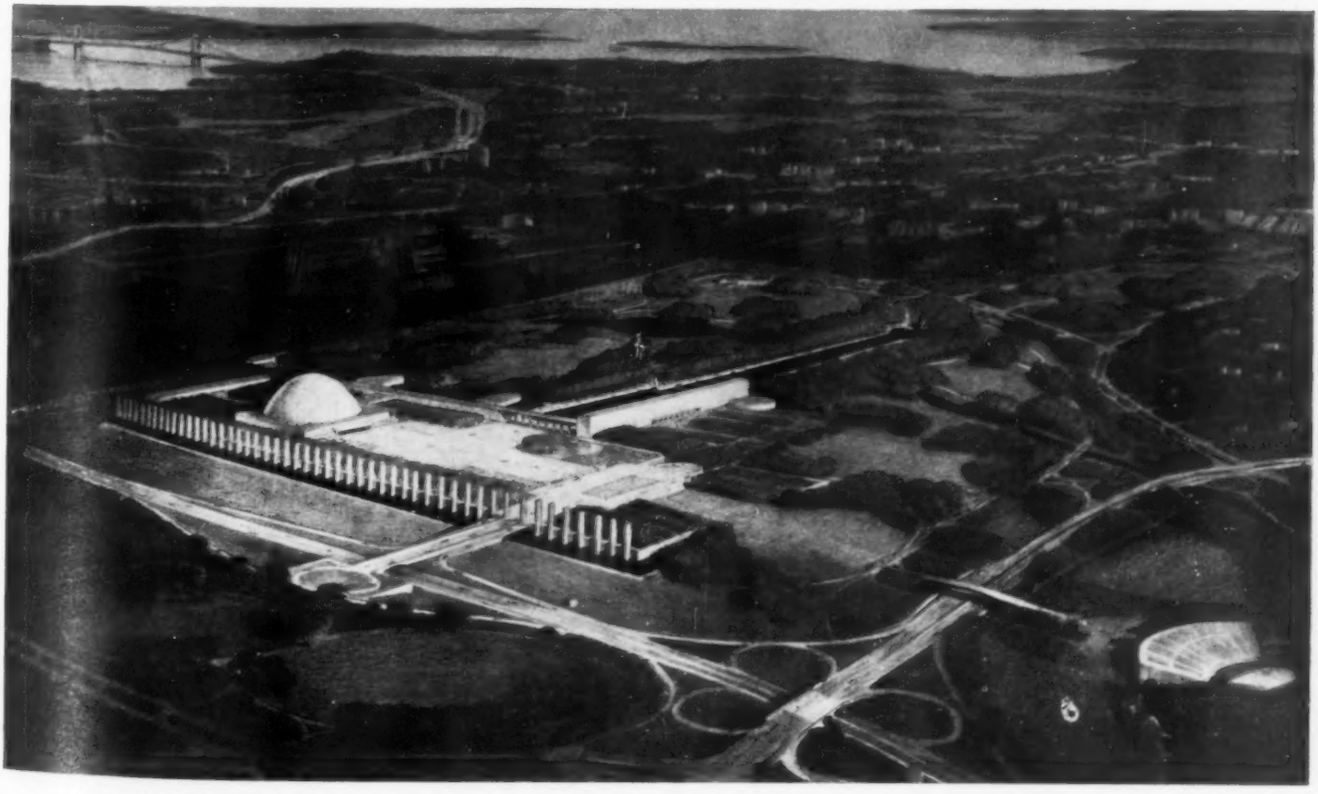
New York City Offers Site for Permanent U. N. Headquarters

NEW YORK CITY has offered the United Nations without cost a portion of Flushing Meadow Park, site of the 1939-40 World's Fair, for use as a world capital. It is here, in the New York City Building, that the United Nations is holding its General Assembly meetings this year. The city's offer was made public in an illustrated brochure, "Plan for Permanent World Capitol at Flushing Meadow Park," prepared at the request of Mayor William O'Dwyer by the Mayor's Committee on Plan and Scope, a group of public-spirited citizens serving under the chairmanship of park commissioner Robert Moses.

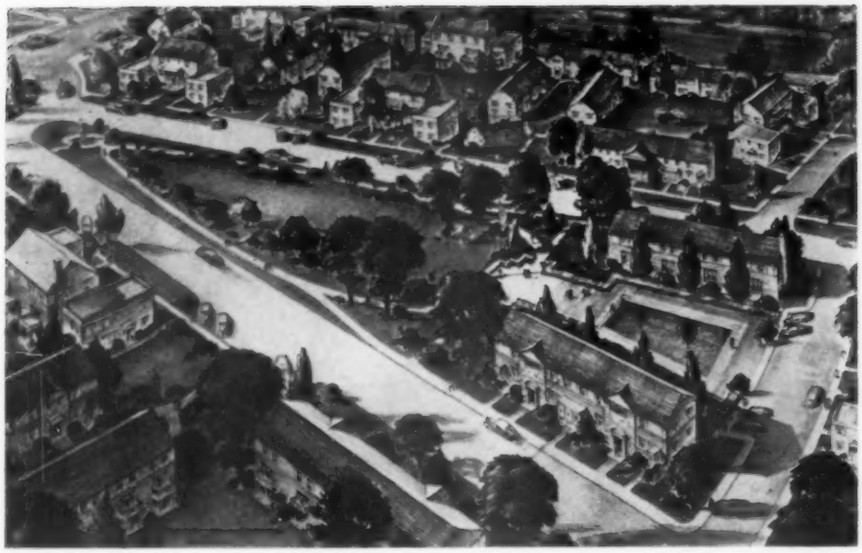
The report includes a suggested plan for a working center and headquarters, based on the early experience and the foreseen requirements of the United Nations governing bodies, commissions, the secretariat, and related



A close-up view of the proposed General Assembly building.



A complete view of the proposed world capitol. At the left is the building that would house the General Assembly.



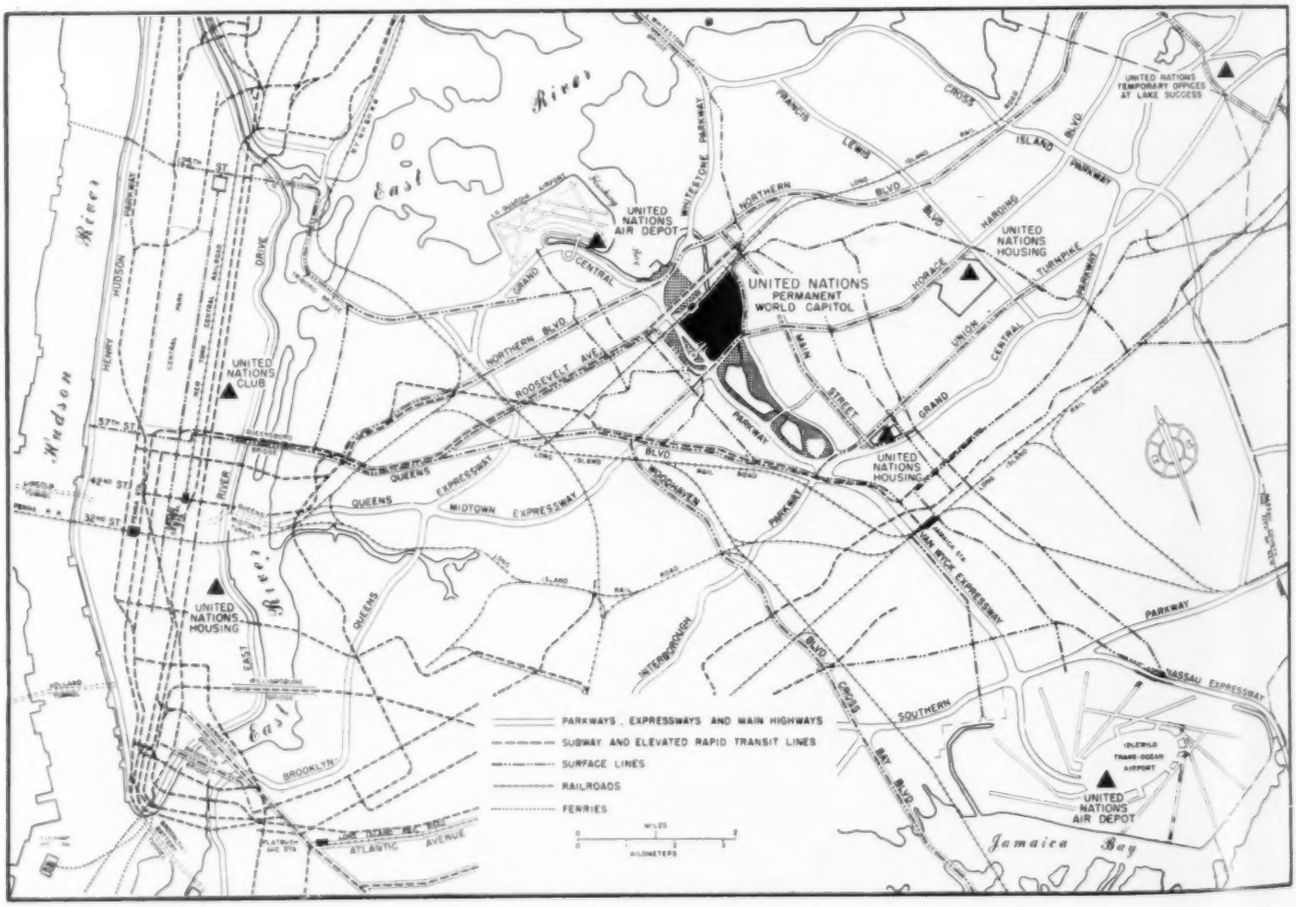
Housing project at Grand Central Parkway in Queens has been leased for U.N. employes.

activities. The architects and the engineers contributing to the report estimate the cost of such a project at $65,000,000. Provision is made for the Secretary-General's residence on the site, but housing for the U. N.'s staff and employes will be near-by.

According to the terms of the offer, approved by the Board of Estimate, the 350-acre site and present improvements will be transferred to the United Nations without cost. All of the land is now owned by the city except a small triangular parcel at the northeast corner of the site which the city will acquire in order to round out public ownership. The land presently owned and the additional lands to be acquired have an estimated assessed valuation of $27,000,000 for land and improvements, including rapid transit and railroad access, water mains, fire protection, etc. The city proposes to exempt the site and improvements from all ordinary and special taxes now normally levied against privately owned real estate. State cooperation has been offered in drafting legislation enabling the city to carry out the terms of its proposal once the United Nations indicates acceptance of the site.

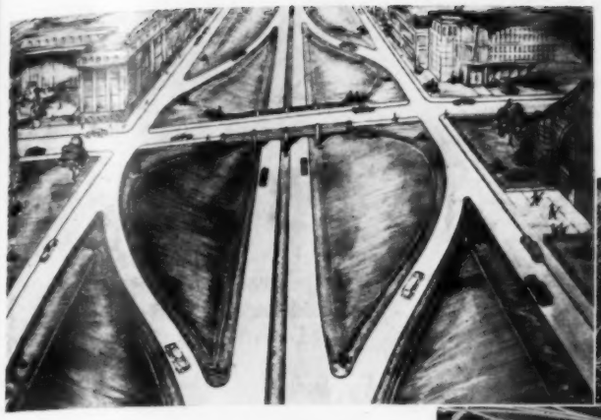
Improvements in existence will fit into the plan for the site development, and would otherwise have to be provided by the United Nations at its own expense if it moves to an undeveloped, out-lying district. In the introduction to the brochure, the mayor points out that the area is free from the problems of relocating tenants.

Sections of the brochure are devoted to showing that the site is ideally served by modern parkways, mass transportation, and airports, and is readily accessible to midtown Manhattan. It is pointed out that the site is a part of the finest park and playground system in the world, that New York has everything that a great metropolis can offer in the way of facilities, and that it can meet United Nations' needs without inconvenience.



This map shows the proposed United Nations Headquarters at Flushing Meadow Park in relation to the New York Metropolitan Area.

Fort Wayne Plans Expressways



A view of depressed section of expressway.

PHOTOS COURTESY OF THE MUNICIPAL REVIEW, FORT WAYNE

South aerial view of north-south expressway route. Traffic will flow quickly from one end of the city to the other on the four-lane highways proposed for Fort Wayne, Ind.

ENDORSED in principle by the Chamber of Commerce and civic leaders in the city of Fort Wayne, Ind., a proposed $27,000,000 express highway system through central areas of that city awaits consideration at a public hearing scheduled for November 12.

The plans for the north-south and east-west expressways were made by engineers of the Indiana State Highway Commission in cooperation with the federal Public Roads Administration. They took two years to complete and were based on comprehensive traffic surveys in and around Fort Wayne.

The proposed four-lane highways, with a block-wide right-of-way along practically the entire route, are designed to provide non-stop thoroughfares for carrying traffic quickly and safely from one end of the city to the other. There will be convenient entrances and exits all along both routes for traffic desiring to enter or leave the super expressways from all parts of the city.

Of the total costs of the project, the city's share will be $4,000,000, representing one-third of the estimated cost of acquiring right-of-way. Federal and state governments will pay the remaining amounts. The construction program will be divided into ten projects, to be constructed progressively over a period of ten years, thus permitting Fort Wayne to finance its portion of the costs at the rate of $400,000 per year.

State engineers have estimated that in the saving of lives and of property loss in traffic accidents alone, the expressway system will save more than its $400,000 annual cost to the city. Another estimated saving of $700,000 yearly can be expected in the reduced costs of vehicular trips.

No substantial change is anticipated over the city's present levy for streets in order to construct connecting and cross highways into the new system. It is contemplated that all funds required will be obtained from a source, or sources, other than general property taxes. City officials have announced that construction of the expressways will not retard other public improvements, although the removal of approximately 1,474 homes and 62 apartments over a period of nine years will be required. The undertaking proposes that these will be compensated for at a fair value and that the welfare of the people affected will be given the utmost consideration.

Final recommendations are also awaited on a local survey which has been made on vehicular parking and traffic problems in the central business district. It is hoped that these problems can be solved in conjunction with the construction of the expressway system.

More Rental Housing Advocated for Veterans

"RENTAL Housing for Veterans," a booklet recently issued jointly by the Office of the Expediter, National Housing Agency, and the Federal Housing Administration, aims to stimulate interest in construction by private industry of rental project housing for occupancy by war veterans and their families.

It questions the policy of encouraging home ownership for veterans who may be financially able to buy but ought not assume mortgage debts which may prove out of proportion to future values. Stating that many veterans prefer to rent, the booklet declares that a great volume of rental housing is needed.

The following claims are advanced as to what rental housing, through either new construction or conversions, will do:

1. Meet the housing needs and desires of a large proportion of veterans.
2. Save time by producing dwelling units faster.
3. Save on scarce materials.
4. Save in land and land development costs.
5. Save in extensions of community and utility services.
6. Constitute a stable addition to community housing supply and tax rolls.
7. Avoid creation of future blighted areas by means of controlled development.
8. Use facilities and personnel of efficient building organizations.
9. Provide a balanced employment program utilizing skilled and readily available labor.
10. Furnish outlets for equity and mortgage capital.

To Counteract Ad
In Urban De

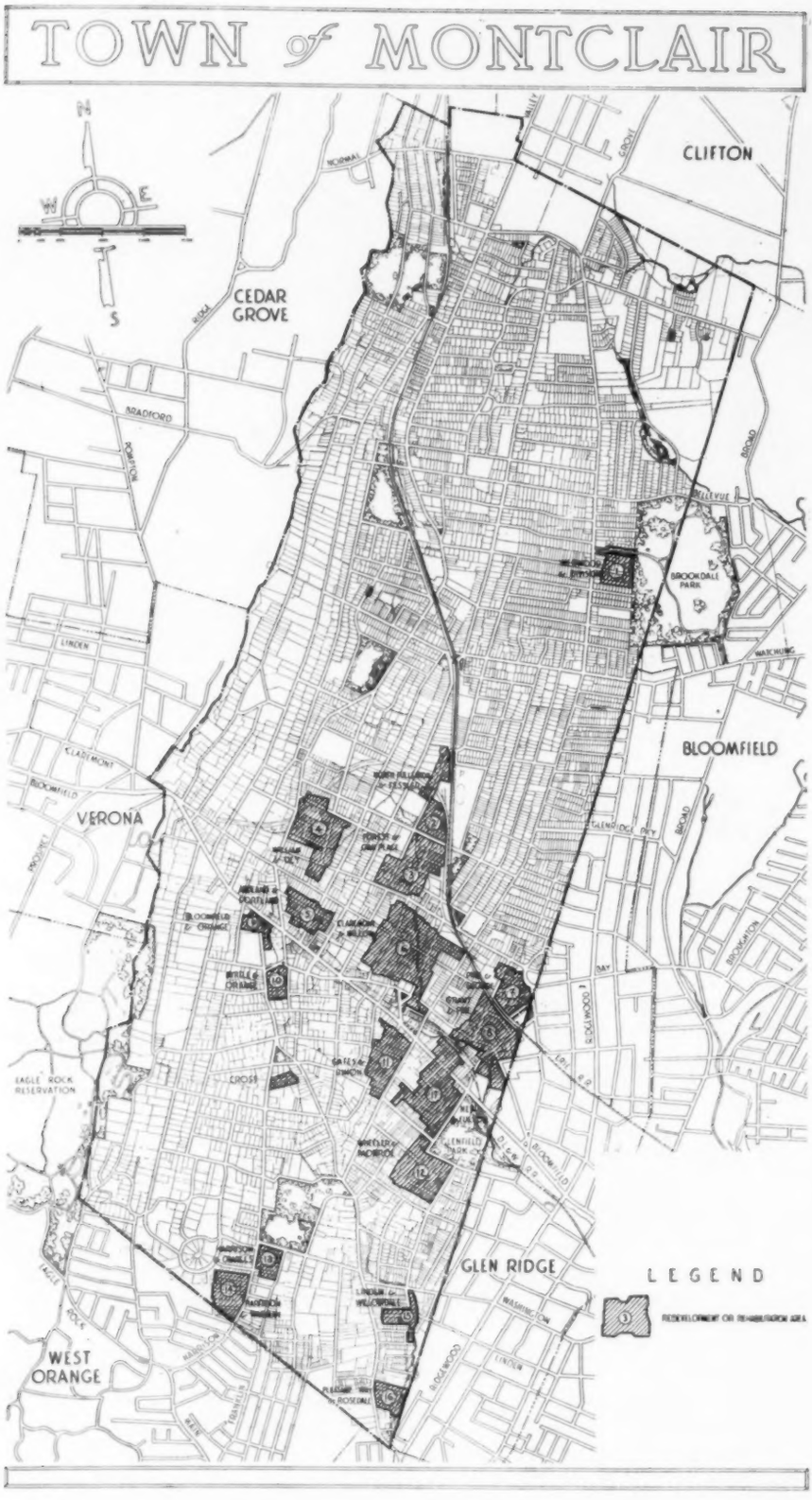
By SCOTT BAGBY
Consultant to Development Board
Town of Montclair, N. J.

IN 1945 Montclair, long a leader in municipal planning and progressive government, appointed a Development Board of five outstanding men in the town. This board was entrusted with the job of analyzing present conditions and future trends, determining the type of development which would be of maximum benefit, then aggressively carrying out a program of attracting such development to Montclair. A thorough study was made and a hundred advance copies of the report have just been presented by the Development Board to the Planning Board, the Town Commission, and interested civic groups.

This report shows that protection of present home and commercial values is the most important field for action. It shows that above-average people, homes, and businesses are the best types of new development for the town. It points out that new development will not be brought to Montclair by sales talks, but by providing the various things which desirable new development is constantly seeking.

Commercial Development

It is not surprising, therefore to find that the sections relating to commercial development do not stress a ballyhoo program, but a sound, planned program of providing the facilities which good business is seeking. Montclair and the rest of Essex County have exceptionally high per capita and per family purchasing power. It has many more factors attractive to the best kinds of commercial development. On the other hand, this area has many disadvantages. It is too congested. It is strangling itself with traffic. Parking space is inadequate, and off-street parking is generally found only where progressive merchants have provided their own. Overzoning for business has detracted from the value of all business investments. Population trends point to a decreasing rate of growth spread out over a larger and larger urban area. The resultant spread of urban blight promises to increase



Seventeen areas in Montclair, N. J., are to be rehabilitated or redeveloped. These are identified on the map above. Montclair's Development Board "seeks a planned, compact, adequately served business district, where each new development enhances the value of existing development." Montclair plans to check damaging trends now.

Adverse Trends Development

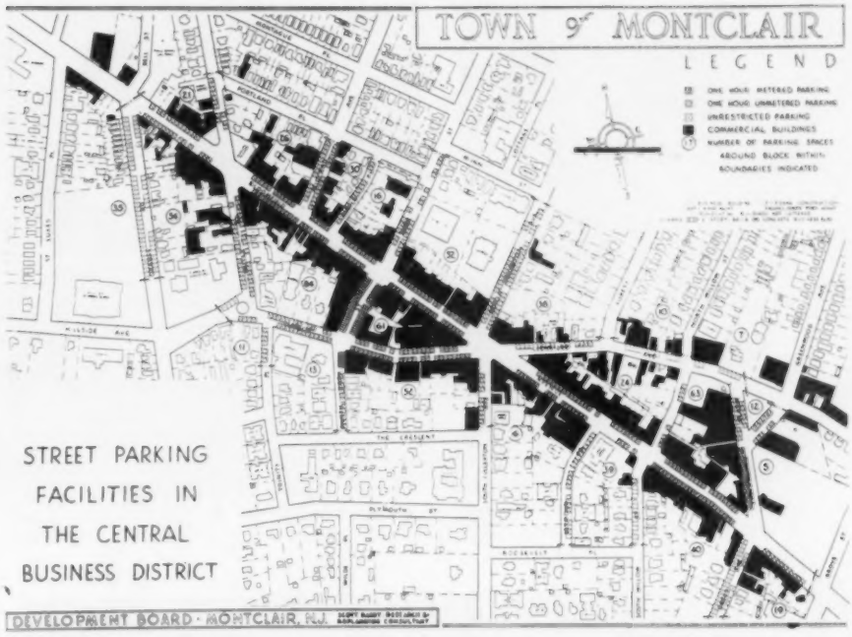
taxes on all good property to compensate for the losses in blighted areas. These trends are not peculiar to Essex County. They are affecting the entire structure of the New York region.

Faced with a rich market but with damaging influences which can wreck their heavy investments, both existing and potential high class business must seek locations which are taking steps to counteract damaging trends.

Montclair has not suffered as much from urban disintegration as most other cities in this region. It now has the highest per store sales in the area, and there is a good potential population development to the west and north. To capitalize on the fact that it has many favorable factors and to overcome existing handicaps, Montclair is planning the redevelopment of its blighted areas and conservation of its property values to assure economical tax rates with minimum fluctuations.

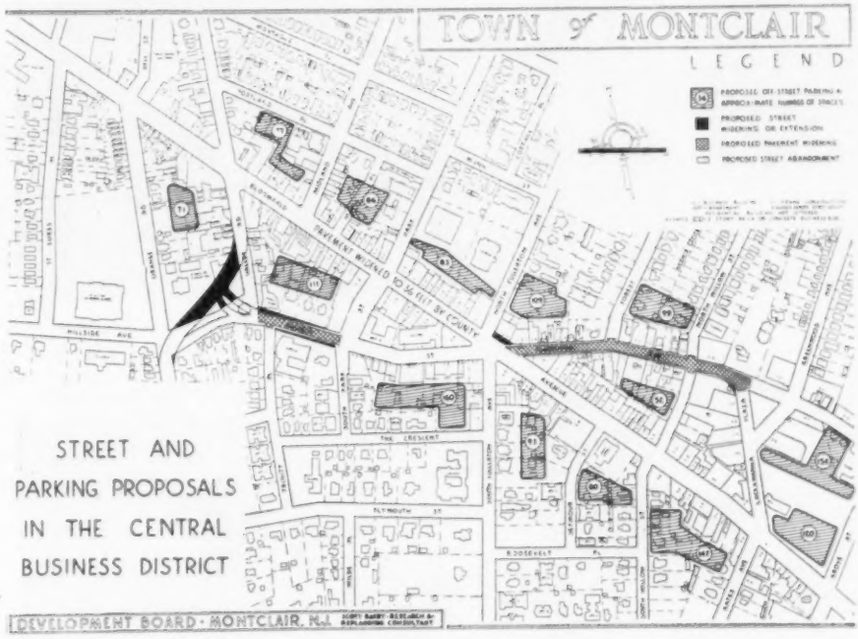
The town is also planning to make its central business district congestion-free and easily accessible to all of its present and potential buying population. Montclair has one municipal parking area with a 160-car capacity. The new plans call for adequate, attractive, municipal off-street parking, convenient to all portions of its business district.

The kind of commercial establishments Montclair wishes to encourage will increasingly seek a planned, compact, adequately served business district, where each new development enhances the value of existing facilities. Montclair hopes to be ready for them by providing the improvements now.



Pictured are the street parking facilities of Montclair. The map gives the number of parking spaces around the block within the boundaries indicated.

The map below shows the proposed off-street parking spaces and the number of spaces. It is also suggested that many streets be widened or extended.


TOWN of MONTCLAIR
LEGEND
STREET AND PARKING PROPOSALS IN THE CENTRAL BUSINESS DISTRICT
DEVELOPMENT BOARD · MONTCLAIR, N.J.

For This We Fought——Guide to the Future

FIRST, employment with security yoked to it; second, peace, founded on some sort of world organization." These are the main goals both of civilians and of returning service veterans, says Stuart Chase in a new report on the aftermath of the war, recently published by the Twentieth Century Fund of New York.

Commenting on the significance of his sampling of opinions among veterans and civilians, Mr. Chase says:

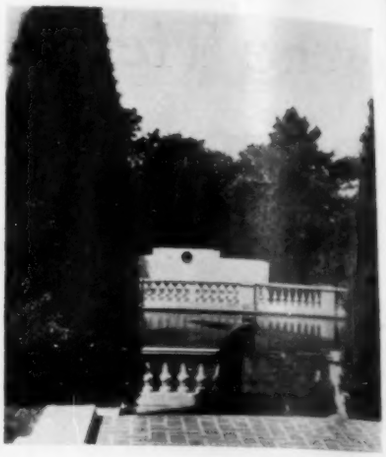
"Unemployment is the major worry, greater in veterans' minds than the fear of World War III. When safe and sound citizens in Civvy Street scoff at the idea of full employment, calling it a 'fetish,' and incompatible with a free society, they should remember that some fifteen million combat-trained young men do not agree with them. . . . Mass unemployment is the primary curse and scourge of the modern economic world. There will be no peace on the domestic front until it is permanently vanquished."

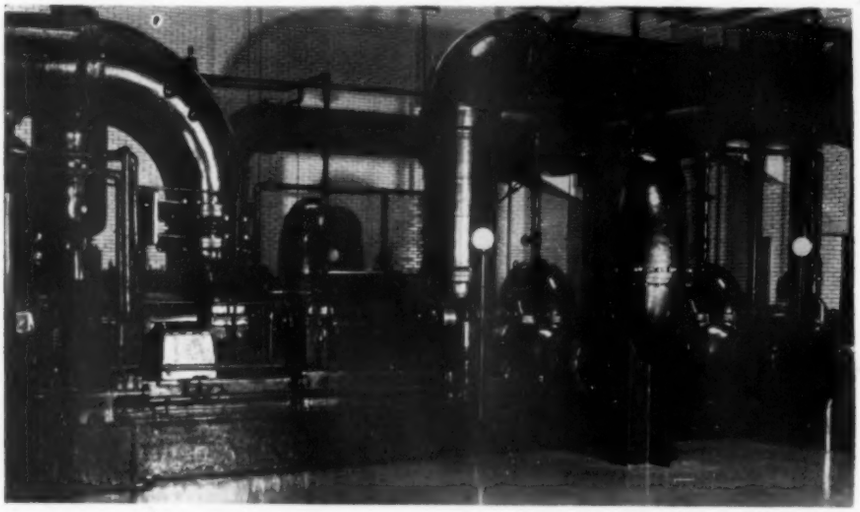
On the civilian side, Mr. Chase quotes figures assembled by Elmo Roper showing that more than two-thirds of the population would be willing to have the federal government collect enough taxes to provide "jobs for everyone able and willing to work but who can't get a job in private employment."

"The best form of security, the American people think, is the right to work continuously. They want the business cycle smoothed out. They are fed up with working in fits and starts as hitherto. . . . We don't want handouts, we want regular work."

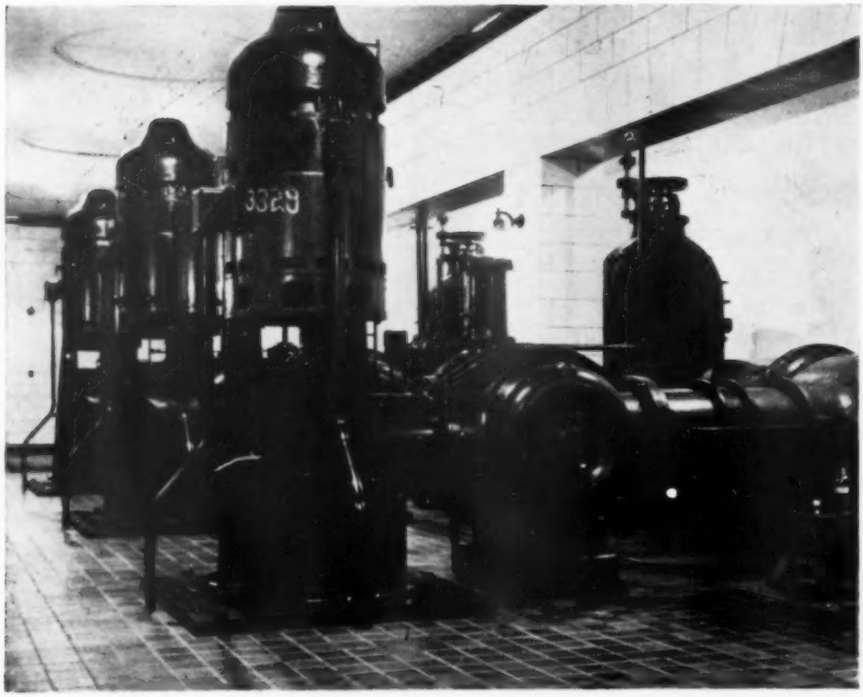
This low-lift pumping station, which contains some of the largest low-lift pumps used in the Middle West, transfers river water to the city water works' new lake.

ABOVE: *A borrow pit becomes a beautiful lagoon.* RIGHT: *A second borrow pit becomes a memorial to the first municipal water works manager, Charles S. Denham.*





Pictured above are four steam-driven centrifugal pumps of the Des Moines water works system. Water from the reservoir goes to the distribution system by means of these.



Des Moines

TWO YEARS AGO Des Moines, Iowa, built a raw water storage reservoir that it hopes it will never need. The reservoir holds some 4,800-acre feet of water behind a rolled earth fill dam with a maximum height of 80 feet and a length of 1,800 feet. The water for it is selected for its low turbidity and is drawn from the Raccoon River by low-lift pumps that transfer it to the reservoir against a 150-foot head. It wasn't easy to build because the war presented construction difficulties. But General Manager Dale Maffitt was glad to see it built and will be equally pleased if he never has to draw a drop of water from his new man-made lake. If, for operating purposes, the dam does not perform one minute's useful service, the Des Moines Board of Water Works Trustees will have not a word of criticism.

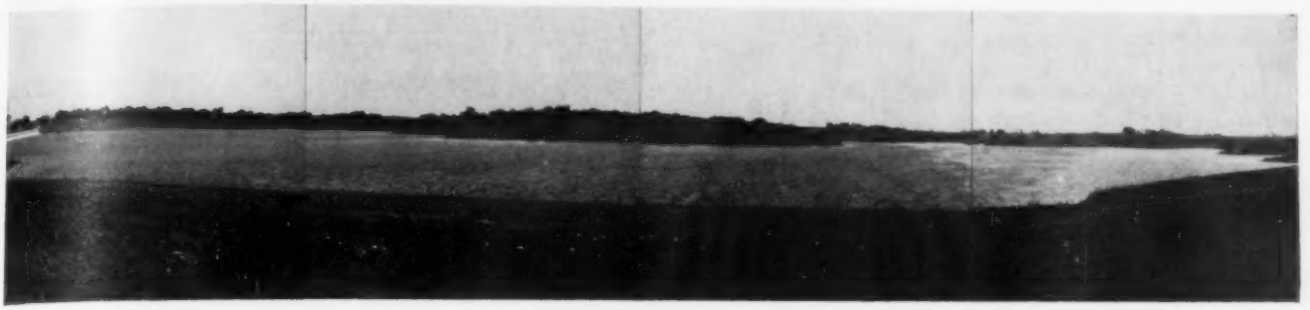
The reason for this is that the dam represents an insurance policy against the heavy drought that occasionally hits Iowa. It is a well-trained division of reserve troops that Manager Maffitt can throw into battle if he finds dry weather destroying his standard water supply fortifications.

The Des Moines water works is widely known for its unique and efficient water system. Established in 1871, it utilizes what is in effect a giant natural slow sand filter bed by the

LEFT: *These vertical low-lift pumps take the water from the collection gallery to the settling basin. There is room in the foreground for an additional pump later.*

Reservoir gives reserve infiltration capacity to one of America's most interesting water services

BELOW: *Des Moines' new lake—a water works insurance policy against Iowa droughts.*



Water Works Insures Its Supply

Raccoon River. Underlying the river is a layer of sandy gravel about 25 feet thick with an effective size of 0.35 to 0.45 mm. Into these sands and gravels have been placed an infiltration gallery consisting of plain-end reinforced concrete rings 2 feet long and 4 or 5 feet inside diameter. The rings are constructed so that there is an opening between each which permits the entrance of water. The gallery is located 150 to 300 feet back from the main river channel and is approximately three miles long.

This gallery system furnishes water at an estimated rate of one million gallons per day per 1,300 feet of river front. Approximately 90% of the water infiltrates from the bed of the river (except when the river bed is covered with silt), the remaining amount coming from rainfall on the land drained by the sand and gravel layer. The silt bed, of course, temporarily decreases the gallery capacity. A flood or freshet removes the deposited silt and restores the infiltration rate. Thus the system has in effect a natural filter surface wash.

At times of low water in the river, and consequent dropping of the infiltration rate, the ground water table can be restored by means of flooding basins that are filled by pumping directly from the river. Water is permitted to seep from them into the galleries at a rate not exceeding one million gallons per acre per day.

To correct the high iron content in the gallery water, the plant has iron removal facilities built in 1941. Water comes to the plant through one 6-foot tunnel 70 feet below ground level. Three vertically connected Pomona pumps, two of 25-mgd and one of 15-mgd capacities, lift the water to a 10-mgd settling basin through a 42-inch line protected by Iowa gate valves and Chapman check valves. These pumping facilities are so constructed that one additional pump can be added if required. On its way to the reservoir the water receives its application of aluminum sulphate and sodium silicate, and the iron is permitted to settle out. This treating process may be expanded to include softening the water to 100 ppm total hardness sometime in the future. The water than goes to the distribution system by way of De Laval horizontal steam-driven turbine high-lift pumps. One of these has a capacity of 30 mgd, another 25, and two have 15.

In recent years Iowa has had two serious droughts that have caused Manager Maffitt some concern about the over-all adequacy of the system. Additional galleries would not have remedied the situation because during these dry periods the ground-water level drops to a point of depletion. Some method would have to be supplied, he reasoned, to recharge the ground water supply similar to the flood table arrangement that already was in use. Some means would have to be developed in which a great volume of water would be in readiness to meet this shortage.

A study of the problem by Alvord, Burdick, and Howson, Chicago consultants, disclosed the advisability of building a lake southwest of the city in a location where the terrain would allow a large volume of water to be stored but still would have a relatively small drainage area about it. Acting on this recommendation, the Water Board authorized the construction of the new impounding reservoir. The reservoir holds 1,570 mg of water in a 200-acre surface area. Drainage into this man-made lake is less than 600 acres.

The lake is filled by direct pumping from the Raccoon River through two big Layne low-lift vertical pumps, each with a 10-mgd capacity. They pump against a head of 180 feet through a 24-inch protected steel pipeline to the dam. If the flow in the Raccoon drops below 60 second-feet, Manager Maffitt plans to bleed water from the lake through the same pipeline back into the river and from there let it seep into the collection galleries.

By drawing from the Raccoon River only during times when the flow is quiet or low, he has been able to fill the lake with relatively clear water. This fact will make the infiltration even easier if and when the need for this recharging becomes apparent.

The Des Moines water board has plans for developing the lake and surrounding territory into an area with

certain types of recreational facilities encouraged. The new lake is being stocked with game fish, and in a few years it will be opened to sportsmen. The entire 600 acres will eventually be reforested with trees suitable to the surroundings. The entire project was built and paid for out of the funds that were derived from the sale of water.

The Des Moines water works is distinctive for its parklike beauty—a feature that Manager Maffitt feels is highly important in order to insure the confidence of the public in the water being produced. When the plant was originally built, two borrow pits were constructed in order to obtain dirt for raising the site of the pumping station high enough to keep it above the river flood level. These two borrow pits, which normally might have degenerated into eyesores, have been transformed into attractive lagoons alongside the pumping station. One of the two has been surrounded by concrete to form an attractive memorial to Charles S. Denhan, for many years general manager of the water works and responsible for many of its present developments. The grounds are kept carefully clipped; the plant also has its own greenhouse and nursery.

With the new reservoir, Mr. Maffitt feels that he can justify the public confidence. Des Moines will have water unless a catastrophic disaster occurs. And if it does occur, the water supply will be among the last of the services to fail. If it does not occur—if during the next five hundred years Des Moines should not be visited by a drought of sufficient intensity to require recharge water being drawn from this man-made lake—still the city should feel well served by a guardian that was ready if an emergency demanded.

Breakpoint Chlorination Works for New Haven

RESULTS obtained from the use of free residual chlorination by the breakpoint method in the intricate water supply system of the New Haven Water Company were described in a paper prepared by S. Jacobson, chemist, and M. S. Wellington, sanitary engineer of the water company, and presented by the latter at a recent meeting of the New England Water Works Association at Poland Spring, Me.

The company serves 250,000 customers with an average of 33 mgd. The raw water is obtained from sixteen sources, and each is treated with chlorine as it is drawn from the reservoir. Following the hurricane in October 1944, additional chlorinating units went into operation to provide free available chlorine to all the supplies.

Since that time, according to Mr. Jacobson and Mr. Wellington, the chlorine dosages have been increased until at the present time the presumptive gas formers which were prevalent in all the supplies have been almost completely eliminated.

Bacterial analyses are regularly made in accordance with "Standard Methods of Water Analysis", and careful records of chlorine dosages, water flow, and chlorine residuals are kept. The graphs for the various supplies in general show that the larger the dose of chlorine the lower the percentage of presumptive gas formers. When a residual of 0.2 to 0.5 ppm was obtained after a ten-minute contact period, the water produced often had a very bad taste and odor. When increased chlorination capacity was introduced, bringing the residual well above this range, the tastes and odors disappeared.

Erratic residual and bacteriological results were obtained when breakpoint chlorination was first introduced until it was discovered that the full chlorine dosage must be applied the instant the pumps were started and maintained until the pumps were shut down. Since then, that procedure was put into practice; the results have been very satisfactory.

In the winter and spring of 1945-6 several problems arose that made the company appreciate the practice of using breakpoint chlorination. When the Lake Saltonstall reservoir was covered with ice, *Asterionella* developed to the extent of 1,300 standard areal units per ml., producing a fishy odor in the untreated water. After treatment, however, not a trace of odor was noticeable. Maltby reservoir was infected with a virile growth of *Uroglena* in March of 1946, and after treatment produced only a very slight fishy odor.

Later in the spring a heavy growth of *Dinobyron* caused a few complaints from consumers, but only because operating difficulties made it impossible to apply a large enough charge of chlorine. When the chlorinator was repaired, the complaints ceased.

Results of Change to Free Residual Chlorine

According to the authors, when the change to free residual chlorine was made throughout the New Haven system some of the supplies had a variety of tastes and odors, others had none. These tastes did not last long but disappeared after breakpoint chlorination had been in effect for a short while, except for a pungent odor that is noticeable in certain areas when the water is first released from the tap.

Although the system originally provided a water that was well within U. S. P. H. standards, the New Haven Water Company, according to the authors, has endeavored to produce as good a water as water works practice would allow; and they have been convinced that the use of breakpoint chlorination throughout the system is well worth while.

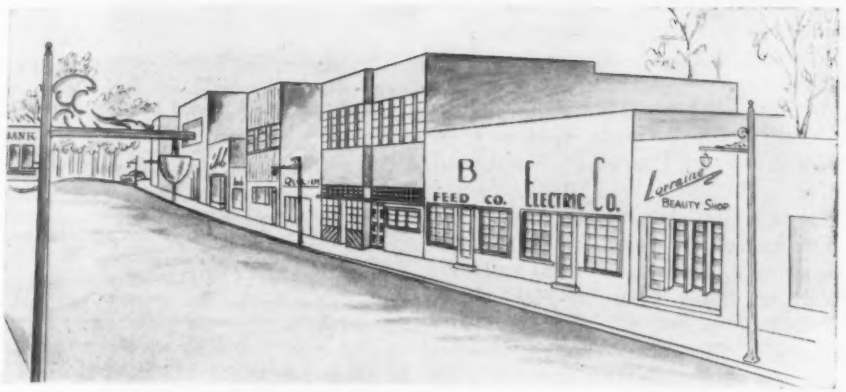
More Kansas Communities Chlorinate

ROUGHLY 150 cities in Kansas have adopted chlorination as a water treating process during the past three years. This brings the total number of cities using chlorination to more than two hundred, according to Paul Haney, Chief Engineer, Division of Sanitation, Kansas State Board of Health.

The resulting improvements to the water supplies in many of these cities have been notable. Most of them receive their supply from wells and chlorinate to obtain a residual protection against possible bacteria life. At the same time they have been able to eliminate slime growths from the iron bacteria, obtain a water much less turbid, and get better flow characteristics in the pipe lines. The improvement at Newton, Kans., was particularly marked.

Of the 589 incorporated Kansas cities, 213 have a public water and sewerage service, 171 have a public water supply but no sewerage, and 205 have neither water supply nor sewers.

On a population basis, 90% of the people in the cities are served by both water and sewers; 6% have water but no sewers; and 4% have neither water nor sewers. Of the 213 cities with sewerage systems, 164, or 69% of the population, have treatment plants.



BARTONVILLE FACE-LIFTING. *The top view shows the business section of Bartonville before rejuvenation.*
. . . . And, below, as a new streamlined Bartonville will appear.

Bartonville Starts Face-Lifting of Business District

By HARRY L. SPOONER

WORK has started on a general face-lifting operation for every business building on the two-block business street of Bartonville, Ill., a suburb of Peoria. Most of these buildings date back to the gay nineties, when Bartonville was a mining community; and several possess the ornamental incongruities of that period.

The civic improvement plan was organized by the present energetic young mayor, Wilbur H. Lauterbach, manager of the local lumber company. He has always been aware of the need for civic improvements in Bartonville and has urged them upon his neighbors for many years. Last year he decided to run for mayor but was prevented from getting the nomination in the caucus. He ran as an independent progressive on a civic improvement program, however, and was elected.

With the cooperation of the Bartonville Board of Trustees, Mayor Lauterbach started the improvement campaign. His first step was to take a photograph of the street that showed the fronts of all the buildings. He then had his company draftsman make a sketch of these fronts. Measurements were taken of the individual buildings, and a master plan was made to which it was desired that all the buildings conform. Suggestive alternative designs were offered for each building.

Selling the Idea to the Building Owners

The mayor called group meetings of the owners to outline his proposal. He found, however, that he had to sell each one individually on the idea. He showed them how their business could be increased by making their store fronts attractive and how the cost of improvements would be an investment rather than an expense.

With the help of a few progressive friends, and after much hard work, he finally succeeded in getting the approval of all but two or three small building owners who are sympathetic to the idea but financially unable to have the work done. Mayor Lauterbach says a way will be figured out to help these go along with the rest. Even the Bartonville bank, which is financing much of the improvement program, is cooperating physically as well by redecorating and cleaning the front of its own building and by landscaping and installing floodlights.

The over-all improvement plan consists of the removal of grotesque ornamentations on the buildings; the entire rebuilding of the fronts, including a harmonious window treatment; the rebuilding of curbs and sidewalks; the installation of ornamental street lighting; and the black-topping of all unpaved streets in the village.

In this set-up, the sidewalks and curbs will cost $4,500; the ornamental lighting, $3,000; and the black-topping, $65,000. The village will pay, for the most part, with proceeds of the motor fuel tax and village general funds. A very small portion of the cost will be met by special assessment. The work on the building fronts will cost about $15,000, and will be paid for by individual owners. Face brick will be used for the rebuilding. The black-topping is about three-fourths completed now, and the first of the store fronts is in process of reconstruction. The lighting company will cooperate in removing unsightly poles to the alley or to an underground conduit.

Although Mayor Lauterbach offers the free services of his draftsman in designing the store fronts, owners may get their own architects. The only requirement is that individual fronts conform to the general master plan.

After the downtown district improvement is completed, efforts will be made to obtain several new public buildings for the village, including a new combined post-office and city building, sketches for which already have been prepared.

A School's Responsibility

THE school's responsibility to the community is not fulfilled until there are educational services appropriate in type and sufficient in amount for all who wish them and can make use of them to their own and society's good.—Twenty-Fourth Yearbook, National Society for the Study of Education, Part II, p. 296.

Reprinted from *NEA Journal, October* 1946.

International Congress For Housing and Town Planning

THE Eighteenth International Congress for Housing and Town Planning was held in Hastings, England, during the week of October 7. Twenty-three countries were represented by 1,257 persons. The program was devoted to the following principal topics.

1. Replanning the centers of cities
   (a) Some examples of new towns
   (b) Decentralization
2. Housing economics and policy
3. Housing technique, with special emphasis on prefabrication
4. Replanning centers of cities with emphasis on implementing the plans

During the course of the Congress there was a special session arranged by the Association for Planning and Regional Reconstruction, dealing with plans of the cities of Europe.

There was also a large exhibition of plans for numerous countries and cities.

It was apparent that planning laws adopted prior to the war were for the most part unsatisfactory. Methods of acquiring land were cumbersome. To a very considerable extent these laws have been amended to provide for the quick acquisition of land. It is rather generally agreed that public ownership of land is essential to large-scale redevelopment. It is fairly obvious that cities which have been destroyed by war activities require state or national assistance for their rebuilding. In Warsaw all of the land within the city has become the property of the city corporation as of the date of the adoption of a new law.

The American delegation consisted of Philip Hannah, Chairman, Assistant Secretary of Labor, and Mrs. Hannah; Coleman Woodbury, Vice-Chairman; Professor Frederick J. Adams; Walter H. Blucher; John Ihlder; John D. Stutz, Executive Director, Kansas League of Municipalities; Herbert Wilkinson, Special Trade Policy Advisor, Department of Commerce; Catherine Bauer Wurster; Charles F. Palmer, Atlanta, and Mrs. Palmer; Louis Johnson, Field Assistant, Department of Labor, and Mrs. Johnson; C. Howard Crane, representing the American Institute of Architects; Professor K. A. Smith of Columbia University, and Mrs. Smith; and Mr. Barton Jenks from the American Embassy in Paris. Walter H. Blucher was elected a member of the nine-man executive committee to govern the International Federation for Housing and Town Planning.

New Towns Bill Enacted in Britain

THE British New Towns Bill, providing for the creation of new towns by means of Redevelopment Corporations established and financed by the Government, was finally made law on August 1 of this year. Existing legislation and the principles established in the Town and County Planning of 1944 have been followed in many respects.

A summary of the major provisions, as reported in the *Journal of the Royal Institute of British Architects*, follows:

The Minister of Town and Country Planning, after consultation with the local authorities concerned, may make an Order designating an area of land as the site of a new town. This area may include as its nucleus the area of an existing town.

When the area has been designated, the Minister will then establish a Corporation to develop the new town and this Corporation may undertake any activity necessary for the purpose of the new town, including the power to acquire, hold, manage, and dispose of land and other property; to carry out building and other operations; and to provide water, electricity, gas, sewerage, and other services. The powers and duties of local authorities and statutory undertakers in the area in which the new town is situated will not be affected.

The Corporation must obtain the Minister's approval to the development plans, and he will consult with the local authorities concerned before giving approval. The Minister will make a special interim development order giving planning permission for any development carried out in accordance with the approved plans, and details of any proposed development may be required to be submitted to the planning authority.

A Corporation may, with the consent of the Minister, acquire land either by agreement or compulsorily. The procedure is the same as under the Town and Country Planning Act, 1944.

Housing on the Rock of Gibraltar

FACING some unusual limiting conditions, a housing scheme now under construction for the Rock of Gibraltar may be of interest to American architects and planners. Particularly important is the careful study given to the local conditions and the approach to the solution. The problems confronted by the British planners, described in a recent issue of the *Journal of the Royal Institute of British Architects*, were these:

"The Rock is very congested, the population having increased considerably in recent years and all the best sites being occupied by the town and dockyards. The climate is a maritime one and therefore liable to be wet, but at the same time great heat is to be expected. The only available materials are limestone, sand, and brackish water. [Rain water is the sole water supply of Gibraltar.] Labor is mostly unskilled and much of it is imported daily from the Spanish mainland. . . .

"Accommodation is being provided in two blocks founded on the Rock and six on the sand; other blocks are planned for later development. There will be 730 flats housing 3,000 persons. Future blocks will allow a total accommodation of 5,000 persons."

Sketch of apartment block planned for the Rock of Gibraltar.

Urban Redevelopment Legislation Needs Critical Study

By CARL ERIC CARLSON

MUNICIPAL officials should consider *now* what types of state enabling legislation will best fill the needs of their respective localities, help them alleviate housing shortages, and redevelop slum and blighted areas. At least forty-four state legislatures will be in session within the next several months. Local officials should have a program ready, know what they want, and, when the time comes, be prepared to take a stand in support of whatever state legislation they feel is necessary before they can proceed with making their cities more desirable places in which to live and work.

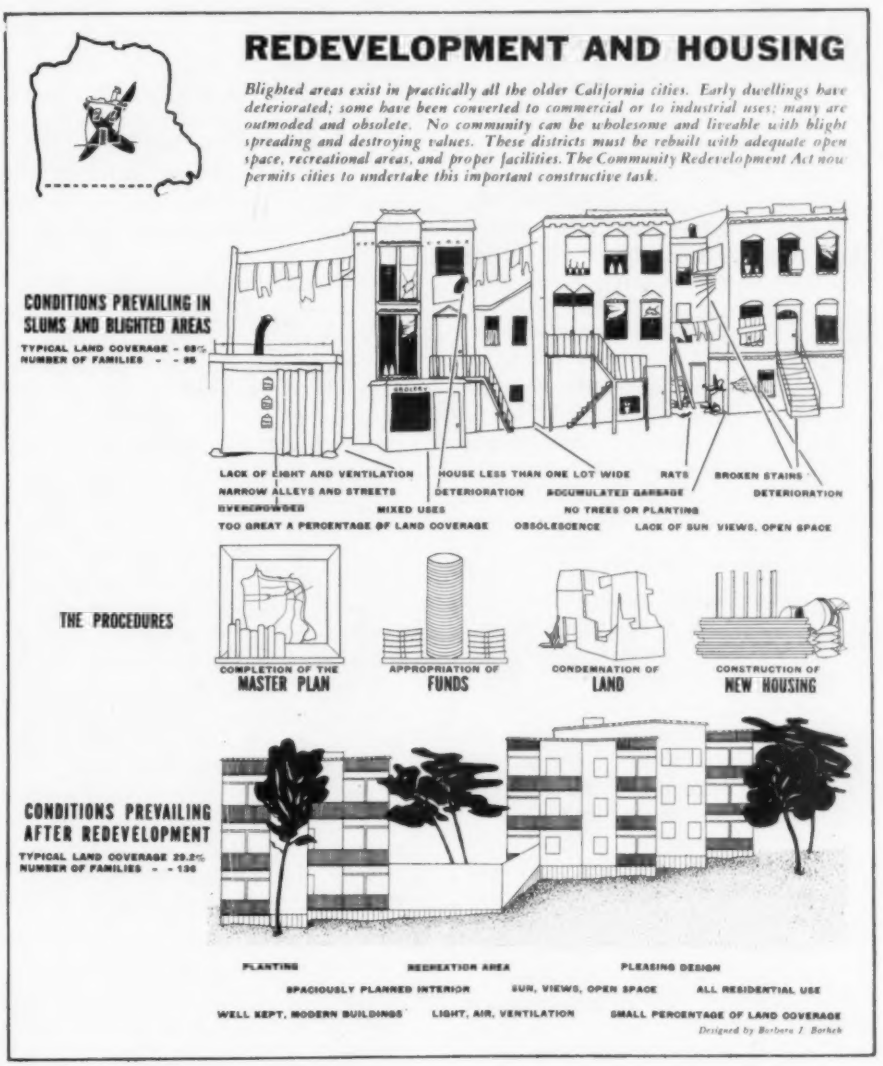
High on the list of any state legislation needing study and re-examination by local officials are the urban redevelopment statutes which have been enacted in some form or other, by half of our states and the District of Columbia.* Certainly, officials in the states which have no provisions at all for urban redevelopment should press for enactment of such legislation. It is equally, if not more, important for local officials in the other states to analyze with a critical eye their respective statutes.

It should be realized that state redevelopment legislation is a new field. The first such act was passed in 1941 —the Redevelopment Corporation Law of New York. However, the following are questions which the local official must keep in mind if he is to appraise honestly the practical worth to his city of state redevelopment laws:

Are they accomplishing what they were intended to do? Does the redevelopment legislation effect reductions in costs of housing occupancy? — Rehouse displaced occupants of low income? — Encourage private capital to enter the field of urban redevelopment?

Has any action been taken under the provisions of the statutes? In view of present enormous housing shortages, can any large-scale urban redevelopment be accomplished under the existing laws? What sort of controls must the municipality insist upon in order to ensure that proposed projects will best fit into the over-all desired community pattern and meet the needs of the people in it? Can state enabling legislation be an effective substitute for a federal program of aid to cities?

The editors of THE AMERICAN CITY are of the opinion that Congressional action, establishing a pattern of fed-


REDEVELOPMENT AND HOUSING
Blighted areas exist in practically all the older California cities. Early dwellings have deteriorated; some have been converted to commercial or to industrial uses; many are outmoded and obsolete. No community can be wholesome and liveable with blight spreading and destroying values. These districts must be rebuilt with adequate open space, recreational areas, and proper facilities. The Community Redevelopment Act now permits cities to undertake this important constructive task.
CONDITIONS PREVAILING IN SLUMS AND BLIGHTED AREAS
TYPICAL LAND COVERAGE - 68%
NUMBER OF FAMILIES - - 88
LACK OF LIGHT AND VENTILATION
NARROW ALLEYS AND STREETS
OVERCROWDED
HOUSE LESS THAN ONE LOT WIDE
DETERIORATION
MIXED USES
RATS
ACCUMULATED GARBAGE
NO TREES OR PLANTING
BROKEN STAIRS
DETERIORATION
TOO GREAT A PERCENTAGE OF LAND COVERAGE
OBSOLESCENCE
LACK OF SUN, VIEWS, OPEN SPACE
THE PROCEDURES
COMPLETION OF THE MASTER PLAN
APPROPRIATION OF FUNDS
CONDEMNATION OF LAND
CONSTRUCTION OF NEW HOUSING
CONDITIONS PREVAILING AFTER REDEVELOPMENT
TYPICAL LAND COVERAGE 29.2%
NUMBER OF FAMILIES - - 136
PLANTING
RECREATION AREA
PLEASING DESIGN
SPACIOUSLY PLANNED INTERIOR
SUN, VIEWS, OPEN SPACE
ALL RESIDENTIAL USE
WELL KEPT, MODERN BUILDINGS
LIGHT, AIR, VENTILATION
SMALL PERCENTAGE OF LAND COVERAGE
Designed by Barbara J. Barkeh

This chart from the News Bulletin *of the San Francisco City Planning Commission illustrates the California procedures for urban redevelopment of blighted areas.*

* The Urban Land Institute divides the statutes into three categories:

Group I. Redevelopment Corporation Laws. Bills encouraging large private financial institutions to participate in slum clearance through the construction of housing projects. *Passed* in twelve states—Illinois, Indiana, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, Virginia, and Wisconsin.

Group II. Housing Redevelopment Laws. Bills enlarging the powers of local housing authorities, making them the development agency. *Passed* in seven states—Arkansas, Florida, Georgia, Illinois, Massachusetts, South Carolina, and Tennessee. Introduced, but failed passage in fourteen other states.

Group III. Redevelopment Land Agency Laws. Bills establishing new redevelopment agencies, controlled wholly by the local government, which have the power to assemble land, issue bonds and to sell or lease the land to private enterprises in accordance with an approved comprehensive plan. In the District of Columbia the Congress acts as the municipal legislature, and two members of the redevelopment agency are appointed by the President. *Passed* in twelve states—Alabama, California, Colorado, Connecticut, District of Columbia, Illinois, Indiana, Maryland, Michigan, Pennsylvania, Rhode Island, and Wisconsin.

The U.L.I. also points out that several bills related to Group III, called "short bills," enabling municipalities to acquire blighted and slum areas for redevelopment by private or public bodies, have been passed in Illinois and New York.

In addition, the Missouri state constitution authorizes any city or county operating under its constitutional charter to acquire areas for redevelopment.

eral aid to cities in helping to write down the cost of land acquisition and providing funds for housing displaced families, is a pre-requisite to any thorough-going national program of urban rebuilding. Until cities are freed from their financial straight-jackets—dependency on the present form of property taxation as their primary revenue source—federal aid for urban redevelopment is an essential, at least under present-day conditions.

However, with our present form of governmental relationships, state enabling legislation for urban redevelopment will still be necessary, with or without federal aid to cities, and it is important that it be well-framed and thought-out.

Most New Building Must Now Be on Outlying Land

Today, people cannot be dispossessed from their living quarters, even though these quarters are slums, until other accommodations are available for them. Therefore, with the present housing shortage, it seems evident that most new building probably will be done on outlying land.

Yet few of the urban redevelopment statutes now on the books provide for land acquisition in unbuilt areas. It is obvious that most new residential building for which land has not been previously acquired will take place in such unbuilt areas or in areas whose present use is primarily non-residential in character. Obviously, state enabling legislation for urban redevelopment should provide for acquisition of land on city outskirts. Provision should be made as well for land acquisition for future redevelopment without a period commitment to that effect. Then, the fact must be considered that many of the urban redevelopment laws are directed exclusively at residential redevelopment. Some of the worst conditions of blight, however, are caused by a mixture of incompatible land uses, as when residential areas are invaded by commercial or industrial establishments. The state laws should permit the type of redevelopment best suited to a particular area, if the worst of our blighted districts are to be rebuilt. The concept of urban redevelopment should also be expanded to include the preventing and arresting of blight.

Safeguarding Eminent Domain

It would seem desirable that the power of eminent domain should be granted to the community only and not to private redevelopment agencies. Acquisition of property through condemnation proceedings is a powerful instrumentality which must be exercised with great care. Questions of constitutionality and public policy may be raised if power of eminent domain is given to private corporations.*

There should be specific allowance for the local government to convey land it has acquired to a redevelopment agency either by sale *or* lease. This would make for flexibility and the choice of a financial plan best suited to a particular area. There are probably few areas in our large cities which could be purchased at prevailing values and resold for redevelopment except at a financial loss. A long-term leasing arrangement might permit the absorption of such loss and thus open for redevelopment areas which would not otherwise be available for this purpose.

At present, long-term leasing arrangements seem to be increasingly favored by business interests. Also, the policy of municipal ownership of land with leaseholds for private development will safeguard the future—assuring the community that it will not again be necessary, in case of new and unforeseen future uses, to pay heavily for the same land which had once been so painfully acquired.

The local government should be required in state legislation to designate a redevelopment or land agency as an arm of the local government which would have eminent domain powers and which could assemble the land by purchase, gift, or any other means. Such a corporate body should be able to issue bonds, receive grants, clear the site, and sell or lease the area to be redeveloped to either private or public agencies.

In many states only private *corporations* are at present permitted to engage in urban redevelopment activities. This concept should include any private individual, partnership, or company as well. If private enterprise is not interested, land set aside for low-rental housing should be made available for purchase by the public housing authority from the redevelopment agency.

Planning and Taxation

Before a local government may act under the redevelopment provisions of a state statute, it should be required to have a planning commission and a comprehensive master plan. The local planning commission should have the power to require submission of a precise project plan in conformity with the master plan before any redevelopment project is approved. Careful attention should be given to such factors as racial discrimination, etc. Public hearings should be required before the area to be redeveloped is officially designated, as well as before the detailed redevelopment plan is officially adopted. This will help insure that the public welfare is safeguarded.

Another feature which should be included in state urban redevelopment acts is a provision which would permit local governments, under some arrangement, to participate jointly with one another in urban redevelopment where they share an area in need of rehabilitation.

Partial tax exemption features, their duration, and controls over administration of such exemption are features of urban redevelopment acts which will vary, depending upon conditions in the various states. Generally, though, it should be left to the municipality to decide whether any exemption is necessary to achieve the redevelopment objectives it desires in specific areas.

Allow Municipalities Greater Flexibility of Action

Most state redevelopment laws should allow for greater flexibility of action on the part of the municipality and should avoid too specific detail. Financial restrictions, limitations on dividends, etc., deserve re-examination to determine whether they actually serve a useful function, and are not,

(*Continued on page 123*)

Partner—Not Bystander

In the actual reconstruction, the city must do more than carry out mechanically its legally specified duties. It is not a disinterested bystander. It is an active partner *in a going concern, the fortunes of which vitally affect the city as a whole. Unless the city is willing to assume an attitude of this kind, the chances of any real recovery from civic blight are negligible. The really fundamental reconstruction effort must have its roots and its growth in the local community.*

Federal Housing Administration, "A Handbook on Urban Redevelopment for Cities in the United States."

* Certainly, a provision such as that in the New York State Redevelopment Companies Law of 1942 should be stricken out. This states that for purposes of condemnation the use for redevelopment is a superior public use and gives private redevelopment corporations virtually complete control over the determination of land use, both public and private, within a redevelopment area.

Veterans Become Home Owners Without Cash Outlay

Naperville, Ill., shows that the impossible can be accomplished when the community pools its resources.

CHICAGO DAILY NEWS PHOTOS

The top photograph shows a five-room house being assembled from knocked-down parts sent from a factory.

The lower view is of HomeOla's "All-in-One Floor" Model 20—which is now being shipped dealers. Its floor plan, with two bedrooms, is 32 x 24 feet.

AS PROOF of what can be done through the combined action of municipal officials, prominent citizens, and veterans, twenty-nine ex-G.I.'s in the town of Naperville, Ill. (pop. 5,800), are purchasing permanent prefabricated houses without the necessity for cash.

As in many communities, it was found in Naperville that the veterans who most needed homes often lacked money to buy a lot and had no way of arranging for interim financing in the construction of their houses until mortgages could be obtained on them. This problem was solved by several local residents, who agreed to set up a revolving fund out of which all current expenses for lots and houses would be paid, with reimbursement to the fund as soon as the mortgage was issued.

The revolving fund is the key to the success of the whole plan, although it is, in reality, just a form of insurance for the prompt fulfillment of purchase obligations. Some veterans in Naperville used their own credit under the "G.I. Bill" for short-term, interim financing until their houses were completed and qualified for mortgaging.

Once the revolving fund was set up, the plan worked in this fashion:

Each veteran selects his own lot. Those who do not pay cash take the lot identification to the bank and sign a formal instruction for the bank to purchase. The bank then buys the lot out of the revolving fund.

The prefabricated houses, of a design selected by the Naperville group, are handled through a local lumber dealer. The houses comply with FHA specifications and local buildings standards. (In some communities where the obstacles of certain code restrictions are insurmountable, the municipal authorities have arranged for the issuance of temporary permits with five-year inspection clauses.)

A contractor is instructed to prepare the basement or foundation. He presents his bill to the bank to be paid out of the revolving fund. The dealer who delivers the parts for the house to the building site is similarly paid.

Veterans Pool Their Labor

As each carload shipment contains complete parts for five houses, the veterans organize themselves into groups of five, in order of application, and agree to pool their labor to complete these five houses. The local dealer in Naperville provides a man to help sort the parts, and the manufacturer furnishes a trained erection supervisor to instruct the veterans in the simple methods of assembly.

With a crew of five men, two full working days were sufficient to get the roof on the average house. Another three days of steady work completes the interior in every respect, including

Housing Expediter Speeds Prefabricated Construction

HOUSING Expediter Wilson W. Wyatt issued a directive last month to the Reconstruction Finance Corporation to enter into a guaranteed market contract with the HomeOla Corporation, Chicago, manufacturers of the house described in the Naperville, Ill., plan, for the production of 19,400 low-priced, factory-built houses.

The company is producing ten houses a day. With the government assuming the marketing risk involved in greatly expanded production, the company has agreed to step up its output to thirty a day by January 1947, forty by February, and one hundred a day by June.

A similar directive has also been issued pertaining to the William H. Harman Corporation of Philadelphia, calling for the production of 10,000 factory-built, moderately-priced steel houses for sale to veterans. Eight types of houses will be built by Harman, with f.o.b. factory prices ranging from $2,925 for two-bedroom models to $3,672 for three-bedroom houses. The "packaged" houses will be shipped to dealers who in turn will contract for their erection. The erector will lay the foundations and the floor and erect the prefabricated parts and assemblies shipped from the factory.

The National Housing Agency has estimated that the cost of a Harman house erected and fully equipped, and including $1,000 for the price of a lot or land, will range from $6,000 to $7,500, depending on whether it is a two- or three-bedroom type. The Harman Corporation hopes to produce a peak of 1,000 homes a month by May 1947.

A third guaranteed market contract has been authorized for the American Fabricators, Louisville, for production of 7,500 factory-built plywood houses. The guarantee will apply to 2,000 of the houses. It is estimated that the total cost, with all improvements, will be $6,800, including about $840 for land.

plumbing, bathroom fixtures, hot water heater, furnace, chimney, kitchen sink and laundry tub, and wiring and electrical outlets—all of which come with the house. When finished, the typical house is one and a half stories, with living room, kitchen, dinette, bath downstairs, and two bedrooms upstairs.

When the house in erected a mortgage application is made at the bank. Actual cash outlay is frequently less than $5,000. With the finished house and lot valued by a Veterans Administration appraiser at approximately $6,100, the full amount of a conservative mortgage loan completely reimburses the revolving fund at the bank. The veteran thus has title to his house with little or no cash investment and repays interest and principal on the twenty-year mortgage at the rate of approximately $30 per month.

A 16-page pamphlet entitled "The Naperville Plan," with a foreword by Mayor James L. Nichols, is available from the HomeOla Corporation, 9 South Clinton St., Chicago 6, Ill.

Symposium on British and American Building Codes

A NEW APPROACH to the revision of building codes is contained in a symposium posing the question, "To what extent is the English method of preparing building codes, as described here, applicable to the drawing of a basic code in the United States?" Colin Lucas, of the British Commonwealth Scientific Office in New York, begins the symposium by describing the English approach in *Tomorrow's Town*, a publication of the National Committee on Housing, 1 Madison Avenue, New York 10, N. Y.

The proposed English Code will have no legal force, being a "statement of good practice" written independently of existing legal codes or acts, although it is evidently intended to influence local enactments. It is being prepared under the auspices of a committee sponsored by the government, but the writing of the code is being done by a small group of qualified experts aided by members of the architectural and engineering profession.

Mr. Lucas describes the code as follows:

In order to make a clear distinction between *performance standards* and *specific techniques*, the code was divided into two parts—a "Code of Functional Requirements," which deals with the standards of performance required for buildings and parts of buildings, and a "General Series" of Codes dealing with specific materials and methods.

The Code of Functional Requirements consists of eleven chapters, dealing with light and air, space, noise, fire loading, weather protection, services, heating, heat insulation, corrosion, dirt and vermin, and acoustics. . . .

The General Series Codes are divided into three main headings: (1) *Carcase*, covering foundations, superstructure, walls, floors, roofs, etc., (2) *Finishes*, covering painting, plastering, floor coverings, etc., and (3) *Installations*, covering sanitation, drainage, water supply, electricity, gas, etc., and mechanical equipment. The Codes are so arranged that each subject is dealt with first in general terms, in a master code of series, and then broken down into sub-headings. By this arrangement each master code has beneath it a "family tree" of sub-codes, dealing each more in detail with the subject. In most cases three or four levels of sub-codes are used and reference is simplified by a decimal system of indexing. . . .

An essential feature of all codes is that they should be sufficiently flexible to take account of new developments. This was one of the reasons for adopting such a clear-cut distinction between the "Functional" and the "General Series" Codes, for when a new technique is developed, if it can be shown by authorized testing methods to provide standards of performance required by the "Functional Code," it can be accepted as adequate, and if necessary a new code in the "General Series" can be written to cover it. In this way it can be added to the Code without disturbing the existing layout.

Unlike many legal codes, we are not laying down minimum standards, and in certain respects we recommend standards which are higher than the present emergency allows. We reckon the Code will be used for many years to come and we cannot, therefore, be influenced by periodic shortages of materials or emergency demands.

Mr. Lucas suggests certain "rules" for code redrafting:

1. The aim of a code should be to open the way for new technical developments, and to make them available to the public.

2. The difference between performance standards and specific techniques should be kept in mind at every stage of code drafting.

3. Specific techniques may be codified, but should never be made obligatory; performance standards should be codified and should be obligatory, but machinery should exist for their review.

4. Construction types should not be restricted by zoning rules; theoretically codes should permit any building to be erected anywhere, provided it satisfied the code's requirements.

5. The difference between "scientific fact," "traditional experience" and "opinion" should be kept in mind when standards are being formulated. Wherever possible, standards should be based on the first, but the second and third cannot be discounted.

For the most part the American experts who discuss the English approach approve of it as a practicable way to achieve results, but they point out that it could involve the extension of code supervision into fields beyond

Building Officials Foundation

The Building Officials Foundation was established at the recent convention of the Building Officials Conference of America for the purpose of promoting general adoption of a modern, uniform building code which has been in preparation for some time by the basic building code committee of the Conference. Temporary headquarters are at 18 East 48 St., New York, N. Y.

Other functions of the Foundation, which will provide regular services to the principal building code administrative officer in all American cities of 10,000 population or more and will provide information without charge to other city or town officials, are:

1. To assist communities in the administration of their building laws and regulations.

2. To reconcile local building codes with advances in building, to the end that structural design, equipment, construction materials and methods may be progressively improved in the public interest.

3. To provide uniform testing procedure in consultation with industry, and to evaluate the integrity of equipment, materials, and methods of construction.

4. To make known the results of tests promptly and in a manner compatible with the needs for such data in administering building rules and regulations.

6. Generally, to keep all persons concerned with various phases of the construction industry broadly informed on better building and construction practices.

the customary limits of American building codes. Despite this, certain similarities between the English endeavor and the efforts of the Building Officials Conference of America to prepare a new Basic Code are seen.

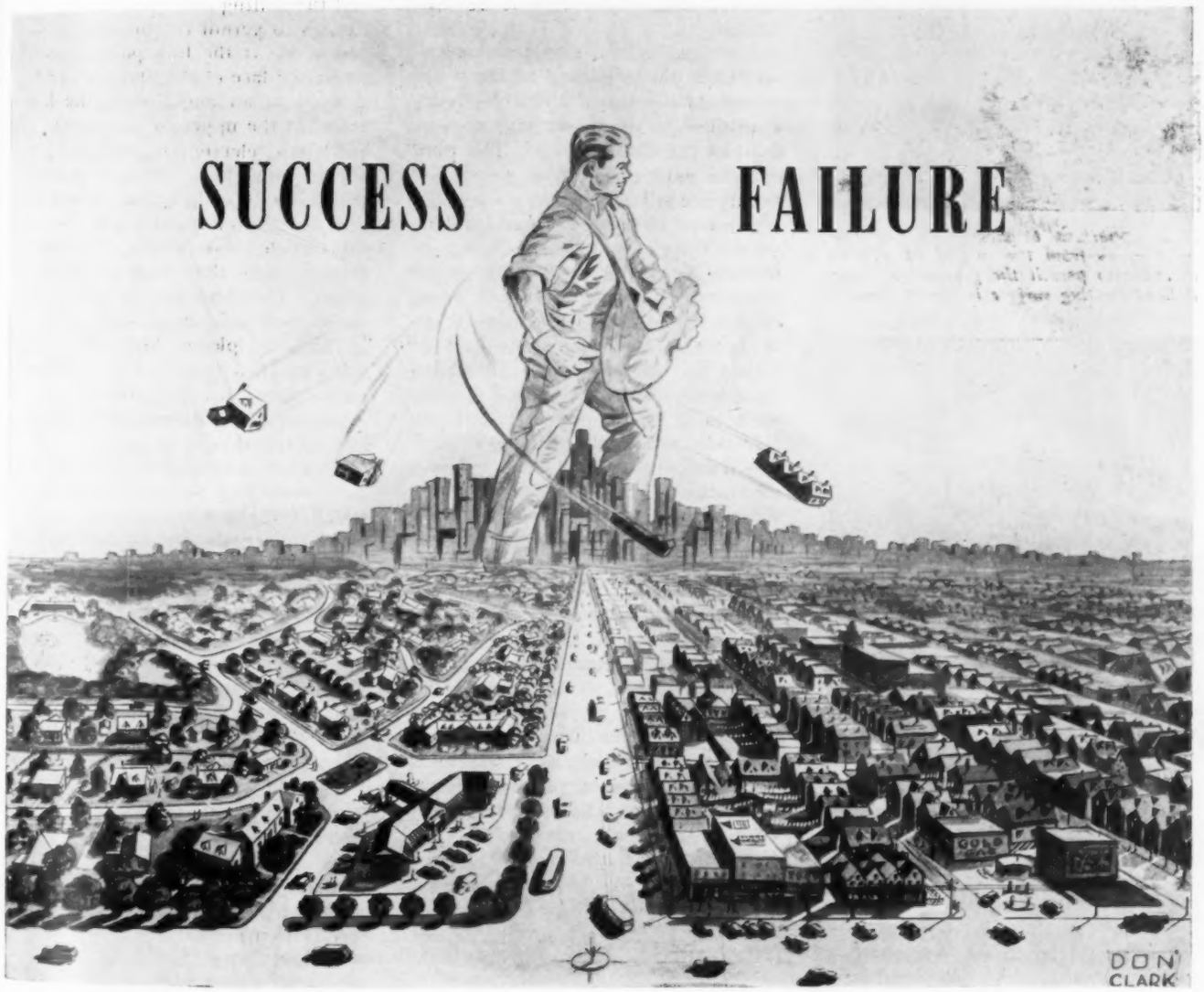
Walter C. Voss, head of the Department of Building Engineering and Construction at Massachusetts Institute of Technology, states that there is great danger of becoming too specific in code drawing and suggests that a third division of the approach could be that of "Inspection and Enforcement". The result, he thinks, might bring order out of the present chaos.

Miles L. Colean, Housing Consultant of Washington, D. C., thinks an advisory national building code is the objective sought by most advocates of building code reform.

Other members of the symposium are George M. Thompson, Chief of the Division of Codes and Specifications of the National Bureau of Standards, who showed some apprehension that the fixing of functional requirements may tend to prevent further progress in standards of building practice, and Irving W. Clark, Manager, Better Homes Department of the Westinghouse Electric Corporation, who points to the need by the entire building industry of a set of construction standards based on sound functional practice. Albert H. Baum, Building Commissioner, St. Louis, Mo., describes the new Basic Code being drawn up by a committee, with himself as Chairman, of the Building Officials Conference of America:

> The new code will be in two parts. Part I will cover basic and fundamental requirements and will outline the requirements all buildings and structures must meet for specific purposes and uses. This part of the code will therefore be little subject to change, as basic requirements are axiomatic.
>
> Part II will state ways and means in which the requirements of Part I may be met. This part may be subject to periodical changes or amendments as conditions demand. As it will be in loose leaf form, amended sections can be easily removed, and new sections or additions readily inserted, thus making it possible to maintain the code constantly current.

Must It Happen Again in Urban Development?



SUCCESS and failure in urban development are contrasted on this front cover of the Regional Plan Association's bulletin, "Housing for Your Town," published last month.

As the sketch is drawn, the builder appears to be abandoning planned home development for a return to the closely packed, gridiron layout of housing. While true in some communities, there is still time for municipalities to safeguard their future by planning and zoning laws.

Practical means of avoiding mistakes in urban development are set forth in this 12-page illustrated bulletin, obtainable for 50 cents from the Regional Plan Association, 205 East 42 Street, New York 17, N. Y.

Gear

Snow Work to Airport Requirements

Snow is thrown to one side for a distance of from 30 to 40 feet by the new airport snowplow mounted on the FWD truck, which is operated at 25 miles an hour.

It is important to clear even the first light snows from the surface of airports in order to permit the ground to freeze. A hard landing surface is thus produced.

Approximately half an inch of snow is left on the runway in this snowplow operation—that being quickly dissipated by sun, wind, and the air blasts of the propellers of the airplanes. Pictured here is the airport with only a trace of snow after the snowplow operation was completed.

J. R. Shannon, Snow Removal Engineer of the Four Wheel Drive Auto Co., located at Clintonville, Wis., tells how development tests show that new type of plow, coupled with heavy, high-speed trucks, can provide serviceable airport runways in a very short time after heavy snowstorms.

AIRPORT SNOW REMOVAL problems are distinctive ones and should not be confused with road and street snow work. Recognition of this fact has prompted Four-Wheel-Drive engineers to develop a high-speed, more efficient, and more economical method adapted to airport requirements.

The new method employs a special reversible plow designed to throw the snow in a layer of uniform depth for a width of 30 to 40 feet with no windrow at the discharge end. The plow operates most efficiently at a speed of twenty-five miles per hour.

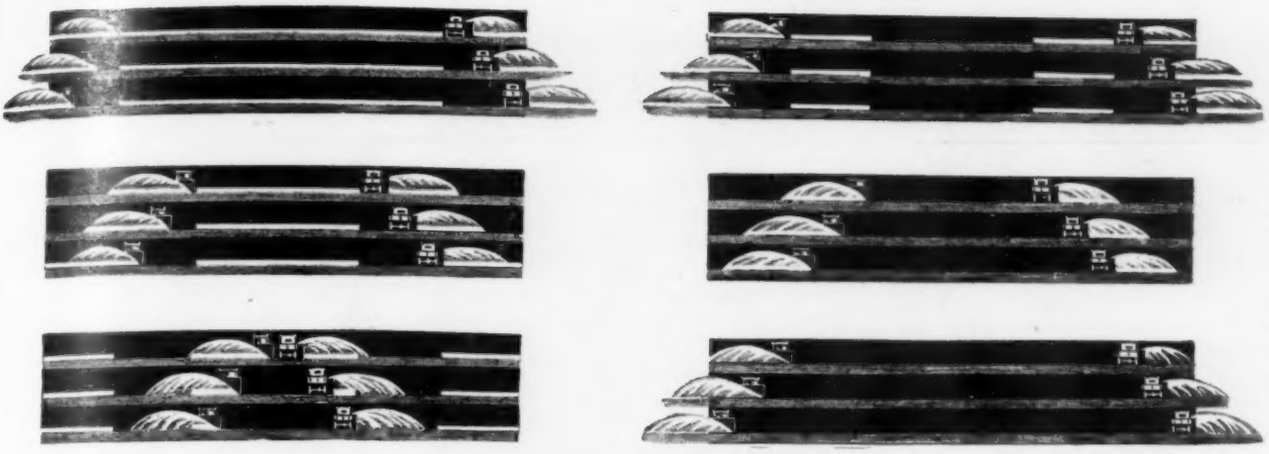
Street or highway snow removal requires that only a narrow strip of roadway be cleared, with the snow deposited in a windrow at either the edge or the center of the roadway. With street work this snow can be picked up by some type of elevating equipment. However, if this method were used on an airport, after considerable snow had fallen, a bank would accumulate large enough to stall a plow long before the snow had been transported off the operational area. These factors encouraged the development of the new displacement type of plow, plus new methods fitted to varied weather and wind conditions, which will cut the time to clear airport areas to the very minimum.

None of the plows designed for highway snow removal were found suited to efficient high-speed airport plowing. The requirement was for a hydraulic reversible plow with controls inside the cab of the truck. The plow designed by the FWD engineers has a moldboard so shaped that snow is picked up by the whole length of the cutting blade and moved in a helical path across the face of the moldboard to the discharge end. The radius and curvature of the moldboard and the cutting angle were made large enough to permit the snow which was picked up at the lead point to travel across the face of the plow and be discharged at an angle above the horizontal at the upper trailing corner. In order to accelerate uniformly the speed of the snow from the lead point to the discharge end, the moldboard section was given a spiral shape. The cutting angle was made considerably greater than that used on highway plows. The high-cutting angle produces more side-thrust than is found in highway plows; but with power being applied at all times to all four wheels through a free running center differential, this excessive side-thrust was overcome.

Another special feature developed for the airport plow was long shoes, which have the effect of permitting the plow to operate on a softer surface. The shoes, shaped somewhat like skiis, also tend to bridge over irregularities in the frozen surface, causing the plow to run more smoothly. The plow shoes are adjusted to leave one-half to one inch of snow on the runways. This thin layer of snow is dissipated in a short time by the sun, the wind, and the propellor blasts of airplanes.

The Clintonville municipal airport, where the tests were conducted, is a mile-square field. In its present state of development, it has three 150-foot runways, with shoulders on the runways graded to a total width of 300 feet. The runways are 3,200 feet, 3,600 feet, and 4,100 feet long, arranged about a central, intersectional area. The width of the area kept clear of snow was arbitrarily set at 300 feet, providing a permanent storage area of 100 feet on each side of the runway.

Using the newly developed plow and clearing methods to be described



Typical operations in the quick removal of wet, heavy snows from an airstrip are shown above. On the left, the plows first clear a strip at the outer edge of the area; then they move the next strip onto the cleared portion. On the right, the plows pick up the snow and retransfer it to a point beyond the area of operations. Snow can be removed in a very short time by following such a procedure.

below, the 125-hp, FWD truck completely cleared a 4-inch, heavy, wet snowfall from all three runways and shoulders to a width of 300 feet, and removed all the snow from the intersectional area in 26 hours. On another occasion an eight-inch fall of very wet, compact snow was cleared from the same area in 41 truck hours.

Wind Direction Important

The engineers found that it was very important to take advantage of the wind and move as much of the snow as was possible in a down-wind direction. Where the operation is started after the beginning of the storm and there is considerable wind with the temperature below freezing, cross-wind plowing eliminated the formation of objectionable snow banks. In storms of this kind, operations were started on the up-wind side of the cross-wind runway, and all snow was moved in a down-wind direction across the runway. Thus the cross-wind runway was cleared first. Since a wind shift can usually be expected immediately after a snowstorm, it was found that this often became a windward runway after a few hours. By the time this runway was cleared, nearly half of the snow in the intersectional area had also been removed.

When a storm occurred with little or no wind, or where the wind during the storm was parallel with the length of the operational area, there was little advantage in moving snow in one direction only. In these cases, it was found practical to move an equal amount of snow to each side of the operational area.

When the snowfall was extremely heavy or where there was not sufficient equipment available to cover the whole field quickly, the most practical results were obtained by working the snow off the airstrips in a series operation, as illustrated in the accompanying drawings. Work proceeded by clearing the outer 30 or 40 feet of the airport, moving the next 30 or 40 feet onto the cleared space and then re-transferring it from the strip. A team of three plows worked excellently in this operation and provided a 60-to-80-foot strip of cleared runway within a very short time.

When there was snow and little wind, with the temperature well above freezing, there was a tendency to form banks at the boundary of the operational area. In order to avoid dangerously high banks, the snow was deposited in the form of a low, wide bank extending from the boundary 15 or 20 feet into the operational area. After the storm was over and the operational area had been completely cleared, it was found that these banks could be eliminated by taking successive narrow cuts on the outside of the bank. This resulted in a series of windrows over a width of 40 to 50 feet immediately outside of the boundary of the operational area. By raising the plow about ten inches off the ground and driving over each windrow, the bank, which originally was about 3 feet high and 15 or 20 feet wide, could be spread over a width of 40 to 50 feet and to a depth of less than a foot. It was found advantageous to leave at least five or six windrows at the outside of the storage area. These served as snow traps and tended to prevent future drifting across the runways.

Clearing the Intersection Area

No problem was found in clearing the wide intersection area during storms accompanied by cross-winds. As previously described, the plow passed through the intersection area on its straight run down each runway, and at the end of the clearing job the intersectional area was cleared.

However, when the storm occurred with temperatures above freezing and with little or no wind, it was found practical to start operations on one runway, moving an equal amount of snow towards each side, and at the end of each pass to make a pass around the outside of the intersection. By this method considerable snow was removed from the outside of the intersection by the time the first runway was cleared. In clearing the second runway the same procedure was followed. Thus, by the time the second runway was cleared, about half the remaining snow in the intersection area had been removed. The rest of the snow in the intersection was removed while clearing the third runway.

Where two or three pieces of equipment were available they followed each other in echelon formation. In this way the plowing time was reduced in proportion to the number of units available. When more than three pieces of equipment were available, it was best to divide the equipment so that two or more parts of the field were cleared simultaneously.

Establish Lines Before Snow Season

In planning removal operations before the arrival of the snow season, lines were established well outside the edges of the hard surface runways, which form the boundaries of the area to be kept free of snow. The area outside of and adjacent to these boundary lines is designated as permanent snow storage space. The area between the boundary lines and the hard surface runways is considered as temporary or emergency snow storage space. The permanent storage area at Clintonville is 100 feet wide and the tem-

(Continued on page 108)

Public Relations for Municipalities

John Q. Gets Chance To Gripe and Takes It With Good Results

MORE THAN 9,000 items from 2,200 citizens were received in a successful "Complaint Week" campaign conducted in Corpus Christi, Texas, when Mayor Robert T. Wilson, through a Complaint Week Committee, used display space to ask people to criticize the city and its administration. As a direct result of the compiled complaints, the city has already taken many step to improve the situations found to need correction.

For the initial step in the drive, the mayor talked to a number of public-spirited citizens, appointing a committee of thirty-two men and women whose job it was to promote further interest in the project and to sort, analyze, and classify the complaints. Excellent publicity support was given through the newspaper, the three local radio stations, and theatres.

A large newspaper advertisement, addressed to "Fellow Citizens" and signed by the thirty-two committee members, launched the campaign. The advertisement thanked the mayor for the opportunity to criticize and explained the complaint procedure. A reply coupon listed for checking the twenty-one specific "gripes" which the committee considered most common. Ample space was included in the coupon for writing in more specific personal grievances or complaints, as well as the citizen's name and address.

As the replies came in, the committee read them and classified them according to city departments. Those under the park department went to the park commissioner. Those under the police department went to the commissioner of police, and so on. A complete 100-page report, permanently bound, was then prepared and presented to the mayor and top city officials. The new city manager was given the task of preparing and carrying out a program to do something about the complaints in the report.

Considerable progress has since been made. Example, the greatest number of complaints was received about the streets. Contracts have already been awarded for the paving and repaving of streets mentioned in the "gripes." The second greatest number of complaints was about the lack of sidewalks. At the present time contracts have been let for all areas that were indicated in the "specific complaints." Other improvements made as a result of complaint week include the better handling and collection of garbage and debris, placing additional signs and lights at street crossings, ordering pipes for increased water pressure in low-pressure areas, ordering 150 water hydrants, letting contracts for more storm sewers, and creating the post of city engineer to advise on proper planning and zoning.

Declaring the campaign to be a success, Mayor Wilson stated: "It unearthed complaints we never even dreamed existed, and it impressed us with the seriousness of some of the city's shortcomings with which we were already familiar. Besides, I think the citizens thoroughly enjoyed getting their pet gripes off their chests—and onto ours."

New Publication on State Planning

FOR persons interested in and concerned with state planning, a new source of information may be found in the *News Letter* of the Association of State Planning and Development Agencies, whose first issue appeared in September. The ASPDA formed in May, is affiliated with the American Society of Planning Officials, 1313 E. 60th Street, Chicago 37, Ill., and includes officials of various state planning and development agencies. The first issue of the ASPDA *News Letter* included an item on federal aid for hospital surveys and construction, as well as short articles on various state planning activities.

Teachers' Workshop

A WORKSHOP in State and Local Government for teachers and prospective teachers of civic, government, and social studies, which gave the teachers a first-hand account of the problems of government from those who are directly concerned with them, was held this past summer at Michigan State College. According to Mr. William H. Combs, Director of the Workshop, there was a broad coverage of subjects by a variety of speakers on state, county, and local levels, with very informal meetings being held during which the group might question the public officials.

Among the sponsoring agencies were the Institute of Local Government, State Department of Public Instruction, and Michigan Municipal League.

Council on Intergovernmental Relations Carries On Unusual Local Experiments

AN UNUSUAL experiment sponsored by the Council on Intergovernmental Relations, located at 202 Transportation Building, Washington 6, D. C., has been making considerable progress in local areas, it is reported by the council's director, John O. Walker. The participating groups have as their objective "the devising of administrative procedures and mechanisms for blending more harmoniously the powers and interests of the federal, state, and local governments in the execution of their common purposes."

Local councils, completely independent, but financed by the Spelman Fund of New York, have been established in five demonstration counties. Three of these—Henry County, Ind.,* Greene County, Ga., and Blue Earth County, Minn.—have already published reports. The other two are Sanata Clara County, Calif., and Skagit County, Wash.

Make-Up of the Council

The Council on Intergovernmental Relations is composed of a group of public officials and local citizens who are concerned over the growing trend toward a top-heavy organization in government at the state and federal levels and toward confusion in government within the community. They believe that this trend, if unchecked, may result in the undermining of effective democratic government. They are convinced that greater responsibility for operating and improved governmental services should be placed in the hands of persons at the local level and that provision should be made for an intergovernmental organization which would function within each community.

The Council is organized into three distinct groups: a council at the federal level, composed of public administrators and government officials representing departments of the federal government, to lay out detailed plans and to supervise operations; a council at the state level appointed by the governors representing the various administrative departments; and a local council in the demonstration area made up of interested citizens with the full responsibility of carrying on the project.

* See page 147 of this issue.

. . . Jottings on Winter Sports

By REBECCA GREEN

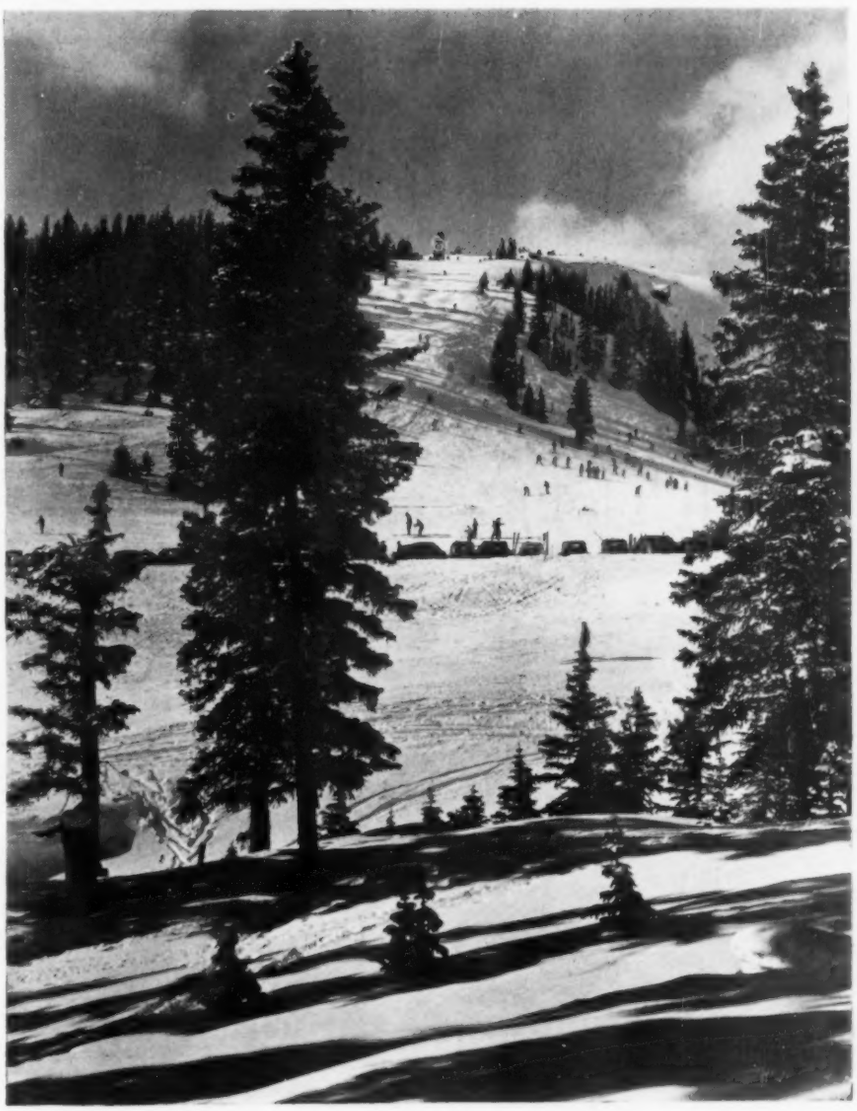
CITIES in the olden days were more aware than today of winter recreational opportunities. Skating parties were important social affairs, and the silver-belled sleigh was seen everywhere. Tobogganing and coasting, even if only down a city alley with a "gang of kids", was an event.

Perhaps one can remember sleigh rides in one's youth when the "crowd" rented a big "pung," lined it with straw and drove out under a silver moon to a country farmhouse, with vocal accompaniment of "Jingle Bells" and "Sweet Adeline," to a hot oyster stew, mounds of hot doughnuts, hunks of gingerbread, and big thick mugs of steaming coffee. There might have been an adjoining pond for skating or a hill where one might go flying down on big sleds.

Skating—Coasting—Skiing

With the recreational spirit so alive in many municipalities, it should be possible to plan constructively for such simple and healthful winter pleasures as skating, coasting, and skiing so that they will be available to modern youth. With the inducement of attractive terrain, a number of facilities could be provided, including transportation and concessions offering warm shelter, hot drinks, and foods such as the usual "hot dog," "burger," candy, and pop.

The skating pond of the past was simply a pond or lake that just happened to be adequately frozen at the psychological moment. Now, it can



TOP LEFT: *Skating on Evergreen Lake, Denver Mountain Parks.* TOP RIGHT: *Ski lift at Ogden, Utah.* BOTTOM RIGHT: *Skiing at Perthond Pass in Denver Mountain Parks. The altitude at the bottom of the tows—where the automobiles are shown in a line—is 11,315 feet above sea level.*

be a planned spot, one dammed to allow it to freeze, or one flooded for the same purpose. Such an area could be equipped with lighting for night skating. Certain streets might be roped off for safe coasting for the young "belly-whoppers" as well as for the oldsters that dare enjoy the sport. A possible shelter might be erected on a vacant lot, if there is one near-by, and removed when it is no longer needed.

Skiing facilities can also be provided, particularly mechanisms for upslope towing. Rope tows are used in many ski areas because of their low initial cost. However, chair lifts and ski-lifts furnish more comfortable transportation. With the ski-lift, some having capacities of 1000 persons per hour, skiers are hauled up singly or in pairs, standing on their skis in safety. Each towing outfit has a towing rope through a spring-loaded device, which holds the T-stick close to the rope when not in use.

Good Civics and Good Business

City people long for country pleasures but rarely find adequate facilities provided. Community cooperation in furnishing and publicizing them is lacking. This can be brought about in part by the backing of city recreation departments. No one man can provide the facilities, but committees should be formed of congenial people interested in the specific activities. Winter sports have a never-failing allure, and proper citizen support can be expected because the public is well aware of the advisability of providing wholesome amusements for the community's youth.

Another aspect will also be of interest. Winter sports, generally, can be good business. California, for example, has sponsored winter recreation since 1931, developing an estimated 100 ski areas within the state. A business of over $15,000,000 is done yearly in retail trade and other services attributed to winter sports.

The individual community favored by a "winter" climate can do much to stimulate this development. Streets or hills can be closed to traffic and allotted to coasting. Skating areas large enough to accommodate crowds and convenient to transportation can be built or improved. Live-wire chambers of commerce can back advertising programs calling attention to localities particularly suitable for filling the needs of winter sports enthusiasts.

The future may therefore see a new interest in winter activity, fostered and nourished by city recreation departments and interested citizen committees. Cities should not miss their opportunities of providing for improved winter sports facilities.

Quotes on Recreation

"How to develop fruitfully one's leisure time . . . how to develop the arts; how to get the most out of life. These are the real problems of a civilized people who have yoked a billion of mechanical horsepower."

—STUART CHASE

* * * * *

"It is the business of those concerned with recreation to assemble from the ends of the earth every cultural tradition of excellence, every capacity for research in developing sources of creative design, and to create for the great and growing field of recreation recognized educational leadership comparable to that in any other educational field."

—ARTHUR E. MORGAN

Reprinted from *Recreation*, September 1946.

Recreation in the "Days of Yore"

Treatise of fysshynge wyth an Angle. *Westminster, Wynkn de Worde*, 1946

PRINTS FROM THE PIERPONT MORGAN LIBRARY

XVI century printing of a woodcut for Der Weiss Kunig

Community Recreation Films Released

Dangerous playing for children without adequate play spaces in "Playtown, U.S.A." An organized recreation program is needed.

Recreation Director V. K. Brown offers advice on community recreation in the film called "$1,000.00 for Recreation."

UNDER the sponsorship of The Athletic Institute, a non-profit organization devoted to the advancement of athletics and recreation in America, two films, "Playtown, U.S.A." and "$1,000.00 For Recreation," were released last month. Both of these films stress the need for municipally sponsored recreation programs in every community in the nation and vividly portray in color the "why" and "how" of a year-round, all-age, community-wide recreation program.

"Playtown, U.S.A." is aptly named. The opening sequence to this 25-minute, sound, colored film depicts the dangers of children playing in streets, in railroad yards and in other unsafe places. It attacks the juvenile delinquency problem subtly and points out that adults too are necessarily concerned with well-planned recreation as a result of the ever increasing leisure time confronting them. Following this introduction, the audience is shown how a young, alert schoolteacher views the problem, how he awakens others to it, and finally how the municipal government is induced to do something about it. Thus a typical American community swings into action. All available public and private properties are opened up immediately to allow both sexes and all age groups the opportunity to participate in wholesome recreation. Long-range planning follows—planning that includes not only physical facilities but program, leadership, and finance as well.

To illustrate the kind of a program this typical American community is planning and working for, the audience is taken on a colorful, visual tour of the recreation program of Decatur, Ill., in full swing. The varied activities of its recreation program are portrayed, with arts and crafts, music, dramatics, and sports for everyone—young and old—geared to the gait of each. There is a cooperative spirit in Decatur.[1] People there realize recreation is a *community responsibility,* and to meet that responsibility they have widely enlisted the united efforts of the entire municipality. The park board, the school and all other civic agencies cooperate and share in the over-all planning. The radius of this cooperation has spread to private groups as well. Church groups, professional, service, fraternal and veteran organizations, all contribute their share to the program's success.

Realizing that recreation cannot function on theory alone, "Decatur recruited the most qualified, full-time and part-time recreation leaders available. Today, these people are as important to Decatur families as the education staff of the city."

As an incentive for the development of home play-space, Decatur's Recreation Department conducts an annual city-wide contest for the best backyard playground. The enthusiasm for this contest runs high; "the result is many little play centers scattered all through the city."

Another important idea stressed in the film "Playtown, U.S.A." is "that fun becomes a family affair — the very young and the very old and all ages in between feel again the strength of family relationship through play." In Decatur they say, "the family that plays together stays together."

Although Decatur is an inland town, a lake has been made by damming the Sangamon River. Thus, by using foresight in planning, a year-round program of fishing and water sports may be enjoyed by the inhabitants. The city water works[2] property has been developed as a playground. A park has been developed between two dams within fifty feet of the playground. In this area is located a municipal theater in which band concerts, dramatic, and musical entertainments are presented, thus affording an outlet for creative expression of talents of everyone in the community.

The recreation program in Decatur does not stop after sundown. Sports events under lights, band concerts, dramatic, and special evening events all help to complete a full program.

The arrival of snow and cold is the signal for launching Decatur's busy winter program. Organized and supervised indoor and outdoor activities offer recreation for all. Outdoor areas are converted for such winter sports as skating, skiing, and coasting. The city's schools are opened after school hours and during vacation periods for programs of music, dramatics, movies, and a wide variety of indoor sport activities that are played in the schools' gymnasiums.[3]

Yes, if you are planning to expand your community recreation program, or if you must start from scratch, see how a typical American community

[1] See "The Community Recreation System of Decatur." THE AMERICAN CITY, August 1937, page 95.

[2] See "Decatur Has Made a Show-Place of the City Water Works," THE AMERICAN CITY, May 1937, page 63; and "Decatur Develops Water Works Property as a Community Playground," THE AMERICAN CITY, August 1930, page 154.

[3] See "High-School Built for Community Use," THE AMERICAN CITY, August 1941, page 83.

saw the need for installing a year-round program; then, see a colorful, visual survey of what this typical community is planning and working for. All of this is presented in "Playtown," a film designed to guide community groups in the initiation or expansion of recreation services for the entire community.

As a companion film to "Playtown, U.S.A.," The Athletic Institute has released a 12-minute, color, sound film entitled $1,000.00 For Recreation" that points out to social, service, and other voluntary organization the fact that recreation is a municipal responsibility. A citizen representing a service club of an average American community visits V. K. Brown, who for over twenty-five years has been Chicago's Director of Recreation, to seek advice on how his club can best spend $1,000 on recreation in their town, a town where nothing of this nature has been done.

In answering this citizen's question, Mr. Brown points out that "recreation is a basic human need in our civilization, like education, health and sanitation. Recreation as such is a forever proposition—a municipal responsibility of any single group in the community." His advice to this citizen and his club is to invest their $1,000 in teamwork—"spend the money to promote the idea of a complete community recreation program — enlist the support of every civic, social, and service organization in town." Mr. Brown's advice concludes that in this way the citizen's town will get recreation—better planned—and more inclusive than anything his group can do for them as a single club.

Accompanying Mr. Brown's sound advice are colorful scenes depicting typical phases of community recreation in various sections of the country. His advice should certainly be followed by countless social, service, fraternal, and veteran organizations in our communities throughout the nation.

Civic groups interested in obtaining the use of both these color, sound, 16-mm. motion pictures, "Playtown, U.S.A." and "$1,000,000 For Recreation," should contact the Y.M.C.A. Motion Picture Bureau with distribution centers in the following cities—New York, Chicago, Dallas and San Francisco.

American Education Week, Nov. 10-16

Penny Wise, Pound Foolish

NEVER has the task of education been greater than it is today—never has the country been faced with more difficult problems than it is today. Global wars, atom bombs, a confused domestic economy, struggles for political power, the feeding of the hungry the world over—these are but a few of the acute problems for which the statesman of tomorrow will have to find a solution. But the statesman of tomorrow will have been the school child of today—shall we deny him the education which the problems of today and tomorrow will demand?

Only adequate education can save this world from destroying itself. Only with proper training of sound minds and strong hearts in our youth will the world of tomorrow be safe. Yet the teaching profession is one of the worst paid occupations in this country. Those whose job it is to keep clean the streets of our cities are in many instances paid more than those whose job it is to keep clean the minds and hearts of our boys and girls. Is it a matter of wonder, then, that many of our best teachers are leaving the profession in which they cannot support themselves?

The purpose of American Education Week, therefore, should be to awaken an interest in the parents, the community, the municipality, the public officials, and all those concerned with the welfare of child education. The teacher of today is the guardian of our happiness of tomorrow. Therefore, in addition to prestige and other considerations which we accord to the teacher, we should also recognize the essential fact that he or she deserves the right to a decent salary to maintain a decent standard of living.

Topics for American Education Week

General Theme

Education for the Atomic Age

Sunday — *Practicing Brotherhood*

Monday—*Building World Security*

Tuesday—*Facing New Tasks*

Wednesday—*Developing Better Communities*

Thursday—*Strengthening Home Life*

Friday—*Investing in Education*

Saturday — *Promoting Health and Safety*

The School and the Community

JOHN DEWEY once wrote that the function of a school should be life itself—not mere preparation for life.

The modern progressive school—one alive to the needs of its community—is hardly satisfied with mere "teaching". Such a school participates in community activities and stimulates new interest in community life.

One of the most important functions of a modern progressive school is to act as a recreation and sports center for the entire community. A number of schools are also used as the center for community events and in a few rural districts house the only moving-picture machine in the vicinity, which, in addition to being used as an aid in classwork, shows pictures on certain nights of the week to all of the community. The school newspaper is another important function of a modern school. Such a paper could be the medium through which parents, teachers, and students express their views on community life.

In these days of scarcities, the school really awake to the needs of the community arouses interest in gardening, canning, and other phases of home economics. It is a leader in such activities.

The school should also urge interest in government affairs. It should discuss the various issues before the local, state, or federal governments, without of course engaging in propaganda to influence legislation.

In short, the school and the community should reflect each other. As John Dewey put it: "The school should be life itself."

On Cultivation of the Mind

AS THE soil, however rich it may be, cannot be productive without culture, so the mind, without cultivation, can never produce good fruit.

—SENECA

The Schools and UNESCO

By WALTER D. COCKING
Chairman, Board of Editors
The School Executive

FOURTEEN months have passed since Japan surrendered. It is almost a year and a half since word came of Hitler's death and the collapse of Nazi Germany. The intervening weeks have witnessed a world in mad throes to adjust itself, to find the way to peace, to fashion a plan to prevent further war, to locate the means of security for all people everywhere. Out of the resulting chaos one fact emerges crystal clear. *The nations of the world are much more efficient at the art of making war than they are at creating conditions for peace.*

Almost everywhere in the world unrest and confusion continue to mount. Many people are hungry, without needed clothes, and lack decent, if any, housing. Governments are overthrown by revolution through the use of force. The wheels of production of needed goods and services wobble and growl and frequently come to a full stop. Transportation is overcrowded and uncertain. Opposing ideologies divide nations and the people within countries. Riot and bloodshed are found frequently even in the nations with the highest culture. Some progress is being made, but selfishness, greed, jealousy are planting the seeds of hate and cultivating them with great energy.

Such is the world situation in the autumn of 1946. It is in this chaotic scene that the fledgling dove of peace, the United Nations, is striving desperately to learn to fly. On its success hang the hopes of the little people of all lands. It must not fail.

World leaders are agreed on one thing. If world peace and security are to be established and maintained, understanding of world conditions by the peoples of all nations is basic and fundamental. *Understanding*, likewise, is dependent upon education of the peoples of the world. *Education* is the business of the schools. And so it is that the people of the world are coming at long last to recognize that the hopes of mankind rest upon the work of schools and especially on the teachers of the world. What a tremendous responsibility, what an opportunity!

The forces of education are accepting the task and are girding themselves for the gigantic job ahead. Already much preliminary work has been done. Necessary machinery has been invented. At London last year, the representatives of 46 nations formulated the charter for a central organization, The United Nations Educational, Scientific, and Cultural Organization. By September 1946, more than twenty nations had ratified its constitution. Late this year, its first sessions will be held in the city of Paris.

Article I of its constitution sets forth the purpose of this organization: "to contribute to peace and security. . . ." There remains the task of putting this machinery into action. The future security of the world may well depend upon the efficiency of UNESCO and the extent to which universal opportunity is made available and grasped by the people of every country of the globe.

The task is no easy one. Nor can it be achieved in a day. It requires the persistent and intelligent effort of all people of good-will. Certainly, every school administrator and teacher in the United States should understand the purpose of UNESCO. Assuredly, they should know a great deal about the status of education in many countries. Finally, they should feel a direct responsibility for doing something and act on that responsibility. Then and only then can there be reason to hope that education will contribute to world security.

The first UNESCO month, to begin November 4, has been announced. The first meeting of UNESCO is scheduled for November. To commemorate these events, let every school in the land intensify its endeavors to teach those things which will help students to develop world understanding.

Reprinted from *The School Executive*.

"Unesco and Education in the World Today"

The School Executive, THE AMERICAN CITY's affiliated monthly magazine in the field of public education, has devoted most of its October issue to a series of articles on "Unesco and Education in the World Today." To commemorate the first meeting of UNESCO, scheduled for November, every school is urged to intensify its endeavors to develop international understanding among students. The special articles in this issue of *The School Executive* (470 Fourth Ave., New York 16, N. Y.) should be of great value to everyone concerned with the problem of educating for world peace. Single copies, 25c. Special price in quantities.

America's Unfinished Business

"For many America is not a land of opportunity because the schooling provided millions of American children who are in school is so inferior and brief that it leaves them unprepared to meet the demands made upon them as citizens and as individuals."

* * * * *

"It is in low-cost communities that the school has the most difficult work to do. It must be an active force not only in lifting the general level of literacy but in increasing such vital factors of community well-being as vocational competence and standards of housing, diet, health, and sanitation."

"Ignorant populations are the meat on which demagogues fatten."

* * * * *

"The most important wealth of any nation is its human resources—provided these resources are carefully conserved and vigorously developed."

* * * * *

"No nation, has achieved an advanced economic, political, and social position without abundant use of education."

* * * * *

"In the light of the unparalleled production of the Second World War there can be no doubt of the ability of the people of the United States to remove from every part of the land the blight of illiteracy, ignorance, and inadequacy for the responsibilities of citizenship. To do so will increase the material prosperity and raise the general level of intelligence and morality of the nation. It will contribute to its happiness, promote its security, make it a greater power for good in the world, and cause it to approach even nearer the patriot's dream. The accomplishment of these ends is—AMERICA'S UNFINISHED BUSINESS.

From "Unfinished Business in American Education," The American Council of Education.

Jamestown, R. I., clears its a persistent and offensive

By ALLAN G. DAVENPORT
Vice-Pres. and General Manager
Jamestown, R. I., Water Co.

Chlorine Dioxide Improves Small City Water Supply

WATER DISINFECTION with chlorine dioxide has become standard practice in more than thirty large plants since its successful introduction in 1944 at Niagara Falls, N. Y. Small plants, however, or those places of 8,000 population or less, were unable to obtain the benefits of this method because apparatus was not available which would accurately introduce into the water sufficiently small quantities of the substance.

Fortunately for Jamestown, a chemical engineer who was out to lick that problem was a resident of the town. He knew that the Jamestown water system was exactly what was needed for a test of his apparatus; namely, a small water system with a pronounced taste and odor control "headache." It thus became the first small plant to try out the new process successfully.

Believe me, our headache was both acute and chronic. The spring-water salesmen found ready customers in Jamestown. The wise-cracks of townspeople and summer residents about the tap water thickened my hide. They said potatoes turned black when they boiled them. They claimed they couldn't draw hot water for baths without putting clothespins on their noses. They said that when their children used improper language, they washed out their mouths with Jamestown water—without adding soap.

Frankly I can forgive them their exaggeration. There was no exaggerating my relief, however, when the reports began to come in not long after the laboratory set-up that indicated the feasibility of adapting the chlorine dioxide method for small water plants had been transferred to our pumping station last January.

The laboratory work was carried on by a member of the local Town Council, Henry N. Armbrust, research and development engineer with Proportioneers, Inc., together with John Synan of Fall River, Mass., one of the men who evolved the method as introduced at Niagara Falls, N. Y., and development engineer with the Mathieson Alkali Works, Inc., of New York.

Using three plastic proportioning pumps of standard design produced by Proportioneers, Armbrust and Synan succeeded in generating chlorine dioxide with complete efficiency, using hypochlorite acid, and sodium chlorite in amounts sufficiently small to make the method practicable for systems pumping less than one million gallons a day.

A half-inch hose supplies diluting water at a rate sufficient to produce a concentration of between 300 and 400 parts per million of available chlorine when the sodium hypochlorite is introduced, but never less than 200 ppm.

Sodium hypochlorite is drawn from a 25-gallon container and thence injected into the stream at a rate that will treat the main flow to a dosage of .6 ppm. Two other pumps in turn discharge, through plastic tubes into the diluting water, sulphuric acid and sodium hypochlorite. The sodium hypochlorite and the sulphuric acid react in a manifold to yield hypochlorous acid. The addition, in the mixing chamber, of the sodium hypochlorite, which became available commercially a few years ago, completes the process of generating the chlorine dioxide that spells curtains for the tastes and odors that once made Jamestown water an object of sarcasm and ridicule on all sides.

This package apparatus, so-called, consists of a metal stand with the pumps and controls mounted at waist level above the three 15-gallon chemical containers that supplant my earthen crocks. Surmounting the pumps is a transparent plastic illuminated mixing chamber which glows bright yellow as long as the chlorine dioxide is entering the water in the correct strength. The water diverted from the intake goes through this indicator and back into the main flow between the coagulating basins and the pump-house.

The chlorine residual measured at the inlet after prechlorination is approximately 2 ppm as measured by the orthotolidine test. The residual of chlorine and chlorine dioxide after introduction of the latter in the clear well is 1 ppm. The effluent at the plant carries a residual of 0.8 ppm. At the tap, the water has a residual of 0.1 ppm, enough to overcome possible contamination between the plant and the consumer's faucet.

I should emphasize the simplicity of operating the chlorine dioxide method. A semi-skilled operator can control the process after very little training. I have found that it is unnecessary for him to devote much time or attention to the apparatus beyond checking the indicator periodically during the day for the yellow glow, which remains almost without exception at its characteristic hue.

As a water company official, I am impressed with the chlorine dioxide treat-

reputation by eliminating . taste and odor problem.

The main source of the Jamestown reservoir ends in a swamp filled with trees and underbrush, leading to the growth of algae, which contributes to the plant's taste-odor problem.

ment of water because it has relieved me of the necessity of choosing between two evils: excessive chlorine taste and smell, or objectionable taste and smell from algae and other vegetation. I am relieved of that necessity because chlorine dioxide destroys the materials carrying the objectionable tastes and odors and at the same time uses itself up.

For that reason, introduction of the process enabled me to discontinue ammoniation which, by means of chloramines, had permitted covering of the taste of chlorine but simultaneously reduced the chlorine's effectiveness against algae. Variations in the degree of ammoniation, therefore, afforded no real relief but only corresponding variations in the unpleasant sensations resulting from the use of the water.

The chlorine dioxide process actually steps up the chlorine action, "burning out" the vegetable matter and other objectionable substances not removed during coagulation. I have said that this action uses up the chlorine dioxide, so I should repeat that a residual amount remains in the water between the point of introduction and distant taps as an additional safeguard to the consumer.

A marked improvement in color, since inauguration of the experiment, has been shown in the regular monthly State Department of Health reports. During June, July, and August the color after treatment was measured as zero, the standard zero being the color of distilled water. At extreme ends of the system, the readings go up to 10 and 15 ppm.

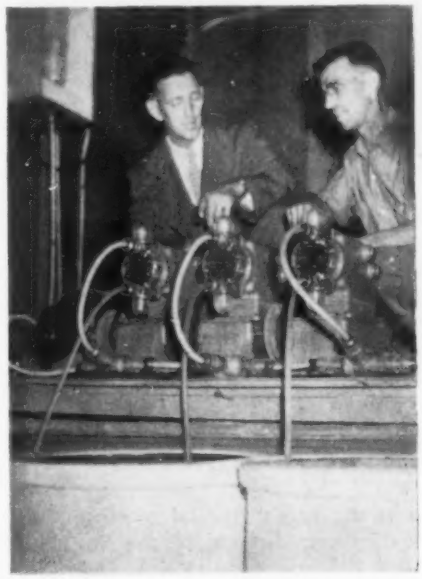
That the chlorine dioxide treatment should be thanked for these fine readings is indicated by comparison with color readings at our plant before the start of the experiment, with our present raw water readings, and with those elsewhere. Our best previous color measurement was 15. Our raw water shows at present the highest readings in six years, ranging from 55 to 90. The State Department of Health reports also show that our water has a greatly decreased bacteria count. It has recently stood at zero on the basis of several different methods of computation and has continued at zero by second tests twenty-four hours after the original ones.

Jamestown Water Company is continuing straight chlorination as well as chlorine dioxide treatment because the action of chlorine against bacteria is known, whereas exact information about chlorine dioxide in that respect is still incomplete.

Evidence has been gathered, however, that chlorine dioxide is effective against certain bacteria, notably that of poliomyelitis. Although various authorities have produced good evidence for the theory that infantile paralysis is not a water-borne disease, I feel that, since chlorine dioxide may have this superior effect in inactivation of the virus, its use should justify an increase in the public's confidence in its water supply.

Jamestown is situated on a twenty-square-mile island and can't be overparticular as to its source of water. The main source tapers off at one end into a swamp in which are numerous hardwood trees and considerable underbrush, both conducive of abundant algae, as well as a few coniferous trees. The secondary and emergency source is located entirely in low land and yields water which before treatment has a noticeable color and is offensive as to both taste and odor.

I am confident that the Jamestown Water Co. has, by means of this process, definitely cured its taste and odor headaches. I know that to be a fact not only through measurable technical evidence but also because it has been several months since I've been kidded about dire results from use of tap water. Some of those who formerly knocked the hardest have now become faithful boosters.



Henry N. Armbrust, one of the developers of the application, is shown above as he gives a pointer or so on the new apparatus to Manuel Mello, the plant operator.

Sixty-One Years Later

In 1885 a law was passed in Walla Walla, Wash., that all shade trees be planted 2 feet from the outer edge of the sidewalk. This picture, sent by Lester R. Armstrong, portrays the final results.

Decentralization Urged for Our Cities

SPEAKING at the 32nd annual conference of the Governmental Research Association September 9-12 at Magnolia, Mass., Carl J. Friedrich, Professor of Government at Harvard University and Chairman of the First-Prize Winning Team, Greater Boston Plan Competition 1944, declared that, after seeing the devastation of American-occupied Germany, he is convinced we have a political and moral obligation to consider the impact of a future war on our cities. At least the possibility of a war should be an element in our thinking, he asserted, and in such a light the proposition of recentralizing our cities becomes very dubious indeed. Dr. Friedrich stated further:

"In the atomic age the planning of metropolitan centers within the great industrial nations is a matter of utmost concern. We must, through alternative super-highways, speedways, and air transport, achieve vitality at the center and combine it with maximum decentralization."

Dr. Friedrich now believes that city areas should be dispersed, but linked together, and that an integrated metropolitan government becomes even more of a necessity with such decentralization.

New GRA Officers

At the recent annual meeting Carl P. Herbert, director of the St. Paul, Minn., Bureau of Municipal Research, was elected president of the Governmental Research Association, whose national office is at 30 Rockefeller Plaza, New York, 20, N. Y.; and Alfred F. Smith, director of the San Francisco Bureau of Governmental Research, was elected vice-president.

The annual award for the best governmental research survey and report was presented by Luther Gulick, director of the Institute of Public Administration, to the Civic Federation of Chicago, for the analysis "Regulatory Inspectional Services of the City of Chicago."

Named to the GRA board of directors for the coming year were the following: Welles A. Gray of Harrisburg, director of the State Division of the Pennsylvania Economy League; Lennox L. Moak, executive director of the Bureau of Governmental Research, Inc., New Orleans; John W. Nowland of Wilmington, Del., director, Tax Research Bureau, Chamber of Commerce of Delaware; Robert E. Pickup, executive director, Providence, R. I., Governmental Research Bureau; and Walter L. Pierpoint, president, Association of Omaha Taxpayers, Inc.

Cities Should Have Written Personnel Policy

WHETHER A CITY has five employes or 5,000, it should have a definite written statement of its objectives in the personnel program. Such a definite program will go a long way toward solving the labor difficulties that trouble many municipalities. This fact was pointed out by Russell E. McClure, city manager of Wichita, Kans., at the recent annual meeting of the Kansas League of Municipalities and emphasized again before the American Public Works Association at its annual meeting in Fort Worth.

Wichita has set the following objectives as the foundation of its personnel policy:

Selection of employes on a merit basis
Creation of satisfactory working conditions
Assurance of equitable compensation, including the principle of equal pay for similar work
Provision of an effective employe training program
Development of career opportunities
Proper recognition of efficient services
Prompt adjustment of cases of unsatisfactory employes

Mr. McClure quoted from data supplied by the International City Managers' Association relative to the municipality's relations with unions, making the following points:

1. The city should take positive action to provide a means of negotiation with employe organizations rather than to shut the door on such groups. Some erroneously believe that recognition implies a written agreement. Others, also erroneously, feel that merely allowing organization constitutes recognition.

2. Comparatively few municipal employe organizations have written agreements with cities. Such agreements, if made, cannot conflict with city charters and may not give preferential treatment to members.

3. A city cannot permit pressure to be applied to an employe to join a particular organization in order to hold his job.

4. The employe organization adopting a constitution should renounce the use of the strike weapon. Since national labor organizations do not exercise complete control over their locals, the local union should therefore be the one to incorporate this provision in its charter. A city should indicate that any employe who goes out on strike will be considered absent without leave.

5. When employes wish to organize, it is desirable that such action be taken openly without secret meetings, and that employes do not take an oath of allegiance which places their obligations to the organization above those to the public.

In a discussion of this paper before the American Public Works Association, Chief Engineer N. L. Smith, of the City of Baltimore, Md., outlined the essential points in the working agreement between the department of public works and the A.F.L. local:

1. The department recognizes the local organization as the bargaining agent for its members; however, members may bargain separately and union membership is not a prerequisite to employment.

2. The garbage and refuse collection system is based on a "task" arrangement which sets out eight hours of work to be performed. If the crew completes it in less than eight hours, it may go home. If the men are required to perform extra duties, they are paid accordingly. Employes required to work on any of the six recognized holidays are paid twice the regular scale.

3. The work scale is based on an eight-hour day and a forty-eight hour week. Employes are given six days' sick leave and two weeks' vacation after one full year of service.

4. The strike weapon is declared inappropriate as a means of bargaining and will not be used.

5. Union dues will be collected by deductions from pay checks only at the written request of members and only for members of the local.

Mr. Smith stated that this arrangement had been satisfactorily in use in Baltimore since 1941.

Airport Snow Work

(*Continued from page* 99)

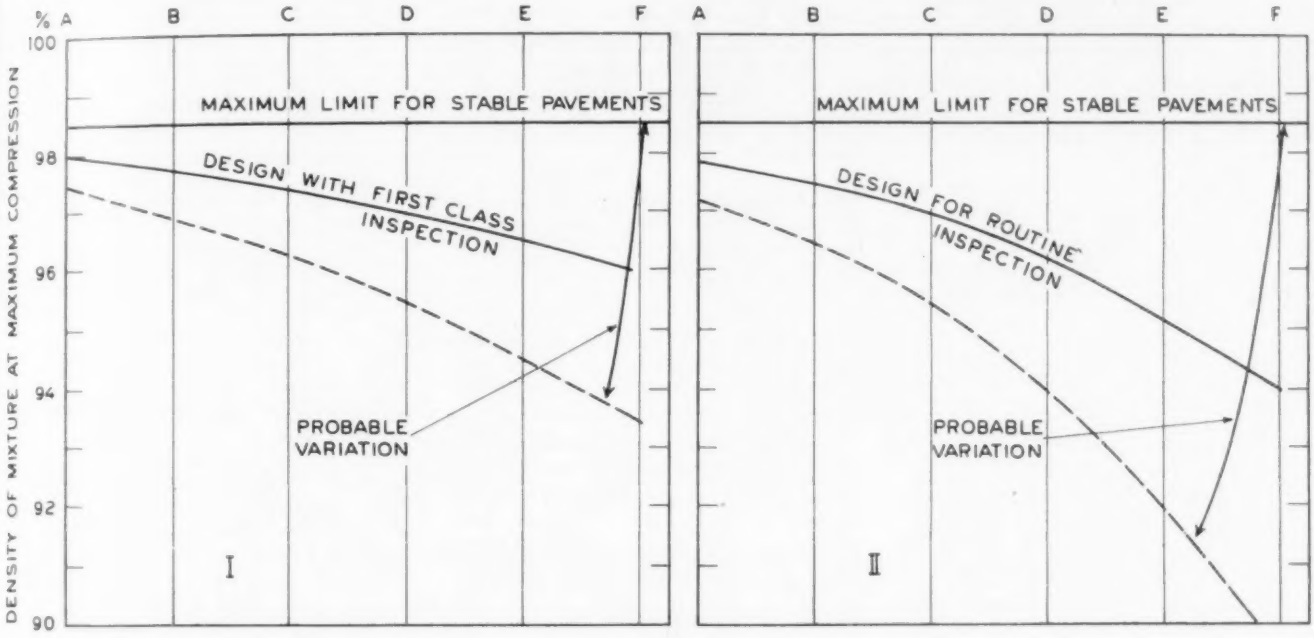
porary storage area 75 feet wide. The emergency space should be wide enough to accommodate the snow from two removal operations from the runways proper in case two severe storms occur in rapid succession without allowing time between them for moving the snow to the permanent storage area.

Since it is important to start operations early in the storm, the boundary lines should be conspicuously marked to guide the driver when visibility is low and when plowing is done at night. The boundary lines of the Clintonville cleared area were marked with flags on 5-foot wood staffs. These were set in portable steel bases. On the top of each staff, above the flag, 5-inch-diameter button-type amber reflectors were mounted.

These markers were placed around the intersectional area on the intersections of the 300-foot lines bounding the three runways and along the outside of the runways. Markers were also placed on the 300-foot lines and spaced about a thousand feet apart. With two 50-candlepower lights mounted on the top of the cabs, and a manually operated spotlight, the drivers were able to follow a previously arranged pattern in a heavy snowstorm during either day or night.

Score Your Asphalt Plant

A plan to lengthen the life of pavements by classifying asphalt plants for uniformity of output and making the mixture design to fit individual plants. Fairer competition between contractors is made possible by requiring a graduated degree of responsibility from contractors with inferior equipment that affects the quality of the mixture.



Density range for asphalt plant mixtures varying in quality from A (excellent) to F (poor). Graph I shows the spread obtained with good inspection, the median line indicating mix design. In a similar manner, Graph II pictures the range with routine inspection.

By L. D. LONG
Newark Testing Laboratories
Newark, N. J.

HOT-MIX asphalt pavements last anywhere from five to fifty years. The average is probably about twenty. An increase of ten years in this probable average is not only possible but may easily be accomplished by using a proper study of usefulness to reduce to safe limits factors that contribute to obsolescence. The most common causes of failure or lack of durability may be listed as follows:

1. Inadequate drainage
2. Sub-base failures
3. Poor workmanship on job
4. Inferior material
5. Lack of stability
6. Improper design
7. Poor plant control

The first three items are being tackled vigorously by engineering staffs and should soon be minimized. Items 4, 5, and 6 are purely laboratory problems. With regard to Item 4, it should be emphasized that no job should be started until a complete and careful study has been made of the materials proposed for use and trial mixes have been prepared that will meet all the conditions of present or estimated future traffic. Important as stability and design (Items 5 and 6) may be, they present no problem since they may be increased to any desired point merely by changing to a more angular aggregate or increasing the percentage of angular particles such as crushed stone or stone sand.

Poor plant control resulting in non-uniform mixtures is one of our most important problems. A scientifically designed mixture is of little avail if it is going to be completely mutilated at the plant. There have been few inspectors who have not gone to some plant with a little prayer as part of their equipment—a hope that they will be able to catch the batches that are obviously bad and that others about which they are uneasy will somehow manage to hold up. It is unfortunate that asphalt mixtures, like portland cement concrete, are furnished under specifications that can give no preference to the plant or contractor with the equipment and the ability to turn out a uniform product which will add at least ten years to the life of the pavement.

In 1935, The Asphalt Institute published Prevost Hubbard's article, "The Rational Design of Asphalt Paving Mixtures." Two important facts were mentioned in this article. The first was that the percent of asphalt cement in a fully compressed mixture should not fill more than 98% or 98.5% of the voids; the second, that maximum durability is obtained only with a maximum amount of asphalt cement. These facts, which can be accepted without question, leave us with the conclusion that the durable pavement is the one manufactured close to the borderline of summer stability with its uniformity accurately maintained throughout the job. To accomplish this requires either the use of a plant that operates with a high degree of precision or an operating artist on the mixing platform.

It is thus essential for an engineer

at least to know in advance the class of plant that will make his pavement and the probable percentage of variation that will take place in the mixture in order that the amount of asphalt cement may be set far enough away from the danger line to be safe. The drier or more porous parts of the pavement will wear faster and make higher maintenance costs necessary, but the immediate problem is to get the best under existing conditions and then improve the conditions.

The accompanying graphs show different degrees of variation in the density of the mixtures produced in six different plants, varying in quality from A (the best) to F (the poorest), and the probable percentage of density that should be aimed at for the safest mixture. These figures are entirely empirical, and there can be no question that such differences exist; the varying age of usefulness of pavements will fully substantiate this assumption.

The classification of each plant would not, however, depend upon density alone, as there are other factors which will affect the quality of the output. These factors have been listed as follows, with values assigned to each according to what is believed to be their relative importance insofar as control of the product is concerned.

1. Gradation ..... 15 points
2. Heat ..... 20 points
3. Weighing ..... 20 points
4. Mixing ..... 15 points
5. Inspection ..... 30 points

Gradation affects directly the percentage of voids in the mineral aggregate, particularly if the mixture is composed of several different types of aggregates of varying degrees of angularity. Stability is also affected to some extent, but small changes in gradation are much less serious to the mechanical stability of the aggregate than is a change in the voids and surface area, causing an unbalanced mixture when the same amount of asphalt cement is used.

Heat, or temperature control, has always been troublesome and may cause plenty of damage even when kept within the permitted limits. Wide fluctuations can cause non-uniform compression on the job and will also cause variations in the hardness of the asphalt cement. Accurate *weighing* is fully as important as temperature. Operators of weigh bins seem to have a universal habit of jumping from one bin to another without certainty of more than an approximation of the correct weight. The problem becomes especially serious when the sand is permitted to run over and rob the filler content, which is generally weighed last.

Mixing troubles are generally the result of worn mixer blades and general inefficiency in getting all the different ingredients uniformly distributed throughout the batch. Many of the most modern plants will have a difference of as much as 10% in the amount of aggregate retained on the #10 mesh sieve between one side of the batch and the other.

Inspection of all agencies and plant equipment furnishing information for control has been given the highest value because of the belief that it will reduce variations by at least 30%. The suggested schedule is as follows:

Gradation

	Maximum 15 *pts.*
Cleanly separated stock piles or bins	2
Automatic feeder, proportioned	3
Automatic feeder, not proportioned	1
Efficient dust collector	2
Total	

(Full credit not to be given unless dust can be waste or returned to hot elevator in a uniform manner as directed by engineer.)

Asphalt plants normally have this division of screen sizes for each bin:

Bin 1	#10, #8 or 1/8-in.
Bin 2	#4 or 1/4-in.
Bin 3	3/8-in. or 1/2-in.
Bin 4	3/4-, 1-, 1 1/4-, or 1 1/2-in.
Bin 5	2- or 2 1/2-in.

Considering these divisions, plants should be scored in accordance with these bin combinations:

a. 1-2, 1-2-3, 1-2-3-4 or 1-2-3-4-5	5
b. 1-3, 1-3-4 or 1-3-4-5	4
c. 1-4 or 1-4-5	2
d. 1-5	1
Overflow spouts on all bins	3
Total	

Heat Control

	Maximum 20 *pts.*
Recording pyrometer, aggregates	4
Recording pyrometer, asphalt cement	2
Plain pyrometer, aggregates	2
Plain pyrometer, asphalt cement	1
Automatic heat control, all materials	11
Automatic heat control, asphalt cement only	3
Steam-jacketed asphalt cement bucket or equivalent	3
Total	

Weights

	Maximum 20 *pts.*
Dial scales of 1/4% tolerance, asphalt cement	5
Dial scales of 1/4% tolerance, aggregate	3
Dial scales of 1/2% tolerance, asphalt cement	3
Dial scales of 1/2% tolerance, aggregate	1
Separate scale for filler	3
Automatic weight cut-off-asphalt cement	6
Automatic weight cut-off-aggregate	3
Total	

Mixing

	Maximum 15 *pts.*
Condition of mixer and blades	5
(To receive full credit, all requirements as set up by the Asphalt Institute must be met for the mixer unit.)	
Runaround mixer or equivalent	5
(Full credit to be given only when two or more samples taken from different parts of any batch containing fine and coarse aggregate will vary less than one-half the variation permitted by the Asphalt Institute for a job mix.)	
Time lock and counter	5
Total	

Inspection and Testing

	Maximum 30 *pts.*
Room or building equipped as outlined by The Asphalt Institute and with full view of mixing platform, distance not to exceed 50 yards	20
Room or building only	10
Proof of performance (graphic records or automatic weigh tickets of all weighing operations)	10
Total	

Classification of plants, based on the total score:

If the score is more than 90	Class A
Between 75 and 90	Class B
Between 55 and 75	Class C
Between 35 and 55	Class D
Between 15 and 35	Class E
Less than 15	Class F

The intention of this schedule is to enable an engineer quickly and accurately to evaluate any plant according to its ability to produce uniform material. Any plant using equipment or methods different from that listed in this schedule, but equally positive in the results obtained, will be given full credit for a uniform product.

The score card is based entirely on equipment and methods. First-class equipment and methods, however, are of little avail unless there is also an intent to use it efficiently and honestly. The vast majority of companies operating these plants do have that intention, and those indifferent to high standards are probably decreasing. Nevertheless, it would be a mistake to overlook this factor entirely; and, since it makes little difference in the results whether discrepancies are deliberate or the result of carelessness, deductions must be made from the plant score if and when it can be proved by tests compared with standardized tolerances that such discrepancies are over and beyond that which would be normal for that plant.

Many uses may be made of plant classification. In the design of the mixture, it would be useful in keeping the proportions on the safe side of rut-

(*Continued on page* 137)

Salvage Pays

A Clectrac tractor with a Heil bulldozer blade works the refuse to the incinerator charging furnace after all the salvable material has been removed.

ROCKVILLE CENTRE, a residential suburb of New York City, located on Long Island, is one of the most salvage-conscious communities in the country. Like the packing house that profits on everything but the hog's squeal, this community salvages and sells virtually everything.

Paper, rags, old metal, tin cans, glass jars and bottles, clothing, and mile-weary shoes are worth money to this town of 20,000. The fiscal report recently filed with the Village Board of Trustees shows that these items of refuse brought in $17,460.90 last year.

The success of this village's salvage campaign, which began long before the war made salvage a national institution, is due mainly to the cooperation of the public in bundling waste paper from other trash, and the enthusiasm of Robert D. Woodcock, Superintendent of Sanitation. Mr. Woodcock has worked in the sanitation department for all but three of his 25 years in the village service.

The cooperation of residents, who own practically all of the town's 5,000 homes, is less surprising when their stake in the salvage operation is considered. Every $4,000 realized on the sale of salvaged materials reduces the village property tax rate by one cent. Thus last year's receipts represent a slash of four cents on the town's previous tax rate of $1.02 per $100 of assessed valuation, which is 80% of actual value.

Nerve center of the perennial salvage drive is Mr. Woodcock's office at the town's 150-ton incinerator building. In charge of the 28-man sanitation crew, 11 of whom sort out salvage and operate the incinerator, Mr. Woodcock makes sure that every last penny is wrung out of the rubbish and garbage that is trucked in every day.

The incinerator uses three Pittsburgh-Des Moines units, two 50-ton double hearth and one 50-ton single hearth. Working one eight-hour shift daily, it processes more than 14,000 tons of refuse a year, including that collected by the nearby communities of East Rockaway and Malverne. For this service to its neighbors, Rockville Centre collects about $12,000 annually over and above its salvage operations.

In making its trash collections, Rockville Centre operates six trucks which have a specially designed body patented by Mr. Woodcock. Five hundred commercial establishments are serviced daily, and household trash is picked up three times a week.

At the incinerator, incoming trucks are weighed outside the office and dispatched to the processing building, where their loads are dumped on the floor. There the bundled newspapers and cardboard are set aside, and the mountain of debris is attacked by laborers with rakes, hoes, and shovels. The salvable materials are thus separated from the garbage before a tractor with a Heil bulldozer shoves it through floor ports to the fires below.

Among the items picked out of the piles for profit are clothing, shoes, loose wrapping paper, newspapers and magazines, tin cans, non-ferrous metals and glass of all kinds. Also sorted out are window-shade rollers, wooden crates, batteries, auto tires and other wornout rubber articles, canvas, carpeting, and mattresses.

Glass and paper are the two big items of salvage and profit at Rockville Centre. During 1945, the village sold 1,644,785 pounds of waste paper, bundled in a hand-powered baler at the incinerator, to waste paper dealers. Broken glass, 274,450 pounds of it, brought cash returns from the Brooklyn Cullet Company at the rate of $3.00 to $4.00 a ton.

Cullet, as broken glass is called, is used in making new glass in much the same manner as scrap steel is used in making new steel. Since the best resale value of old food jars and bottles depends on its reduction into cullet,

Robert D. Woodcock, Sanitation Superintendent, stands beside one of his specially designed Mack trucks that make it easy to separate salvable material from the rest of the garbage and refuse.

Mr. Woodcock set up a simple but effective homemade method of breaking and sorting glass by colors, as cullet's value depends on its color.

Using odds and ends of lumber and corrugated metal, he erected three inclined bins into which the glass is dumped and broken. Each bin holds one color of glass—amber, green, or clear. Sliding doors, overhanging a driveway into the lower-floor burner room of the incinerator, permit easy loading of the trucks which haul the cullet away.

In salvaging Rockeville Centre's discarded glass, the sanitation department makes an exception of milk bottles, which are in short supply. These are sorted out separately and returned to the dairies intact through bottle exchanges.

While glass and paper are the tonnage leaders in the salvage program, a miscellany of small items turns in neat profits. Old hats, for example, bring 15 to 25 cents each; old shoes are sold for export to less prosperous countries for prices ranging from 5 to 25 cents a pair.

Such other materials from the town's trash cans as processed tin cans and rags are sold to metal-reduction companies and brokers. Odd pieces of iron and steel and bits of copper and brass are slow in accumulating and are usually sold to junk dealers.

Mr. Woodcock's report on last year's activities shows that glass is one of the rapidly increasing salvable materials. During 1945, the incinerator's cullet sales were 12 tons more than during the previous year. Processed tin cans, meanwhile, dropped more than 50% to a total of only about 10 tons last year.

Over-all tonnage of the salvage campaign has grown steadily since it was organized in 1925. Even during the war, when many agencies were competing for household salvage, the town's profits continued to climb. The $17,461 taken in last year was $3,206 more than in the previous year and $7,110 more than in 1943. The village tax rate has declined proportionately.

According to Mr. Woodcock's report covering the last fiscal year, the following quantities were salvaged:

MATERIAL	1945 POUNDS	1944 POUNDS
Waste paper, cardboard	1,655,785	1,454,635
Rags	46,070	26,285
Burlap, canvas, carpets, and mattresses, etc.	37,725	24,265
Cullet (broken glass)	274,450	251,900
Iron and steel	28,600	17,810
Tin cans	20,440	47,250
Grease	770	1,258

Large quantities of milk bottles, old hats, shoes, umbrellas, window-shade rollers, tires and batteries were also salvaged.

CAA Apportions State Aid Airport Funds

APPORTIONMENT to the states of $30,822,750 of the appropriation by Congress for airport construction and development under the Federal Airport Act for the fiscal year 1947 was announced recently by Charles B. Donaldson, Assistant Administrator for Airports.

Out of the $45,000,000 appropriated, $1,740,000 is for projects in Alaska, Hawaii, and Puerto Rico, leaving a total of $43,260,000 for projects in the United States. Of that sum 5% is for administration and 25% of the remainder is set aside as a discretionary fund to be available for construction as determined by the Administrator of Civil Aeronautics. Total money available for allocation among the states, therefore, is $30,822,750.

FEDERAL AID AIRPORT PROGRAM

STATE APPORTIONMENT OF FUNDS FOR 1947

State	Population Ratio	Land Ratio	Combined Ratio	Apportionment	Rank
Alabama	2.151573	1.684637	1.918105	$591,213	20
Arizona	0.379178	3.678339	2.028758	625,320	16
Arkansas	1.480518	1.714765	1.597642	492,437	35
California	5.246013	5.126728	5.186370	1,598,582	8
Colorado	0.853119	3.366335	2.109727	650,276	15
Connecticut	1.298133	0.180253	0.739193	227,839	44
Delaware	0.202405	0.077727	0.140066	43,172	49
District of Columbia	0.503604	0.002228	0.252916	77,955	48
Florida	1.441045	1.947041	1.694043	522,151	32
Georgia	2.372401	1.902768	2.137585	658,863	14
Idaho	0.398630	2.698215	1.548422	477,266	37
Illinois	5.997786	1.870541	3.934163	1,212,617	5
Indiana	2.603338	1.179268	1.891303	582,951	21
Iowa	1.927760	1.817389	1.872574	577,179	22
Kansas	1.367842	2.636849	2.012346	620,260	18
Kentucky	2.161193	1.304432	1.732813	534,101	28
Louisiana	1.795316	1.599709	1.697513	523,220	31
Maine	0.643450	1.108161	0.875805	269,947	43
Maryland	1.383196	0.397287	0.890241	274,397	42
Massachusetts	3.278457	0.297602	1.788030	551,120	26
Michigan	3.991900	3.125566	3.558733	1,096,900	6
Minnesota	2.120692	2.786146	2.453419	756,211	10
Mississippi	1.658546	1.558795	1.608671	495,837	34
Missouri	2.874372	2.249906	2.562139	789,721	9
Montana	0.424895	4.751367	2.588131	797,733	8
Nebraska	0.999348	2.494130	1.746739	538,393	27
Nevada	0.083730	3.569548	1.826639	563,019	23
New Hampshire	0.373302	0.300444	0.336873	103,834	45
New Jersey	3.159556	0.265439	1.712497	527,839	29
New Mexico	0.403904	3.928827	2.166365	667,735	13
New York	10.237120	1.742213	5.989666	1,846,180	2
North Carolina	2.712571	1.702171	2.207371	680,372	12
North Dakota	0.487536	2.281908	1.384722	426,809	39
Ohio	5.246184	1.442770	3.344477	1,030,860	7
Oklahoma	1.774472	2.257818	2.016145	621,432	17
Oregon	0.827592	3.133252	1.980422	610,420	19
Pennsylvania	7.518975	1.487624	4.503299	1,388,042	4
Rhode Island	0.541771	0.039654	0.290713	89,605	47
South Carolina	1.442861	1.007281	1.225071	377,601	40
South Dakota	0.488315	2.487995	1.488155	458,690	38
Tennessee	2.214519	1.364204	1.789361	551,531	25
Texas	4.871922	8.633113	6.752518	2,081,311	1
Utah	0.417949	2.742100	1.580025	487,007	36
Vermont	0.272828	0.310293	0.291560	89,867	46
Virginia	2.033711	1.366787	1.700249	524,064	30
Washington	1.318600	2.279453	1.799027	554,509	24
West Virginia	1.444509	0.780851	1.112680	342,959	41
Wisconsin	2.382930	2.138241	2.260586	696,774	11
Wyoming	0.190433	3.161830	1.676132	516,629	33

Federal Aid Airport Program Appropriation—Fiscal year 1947		$45,000,000
For projects in Alaska, Hawaii and Puerto Rico		1,740,000
Net total for projects in the United States		$43,260,000
Administrative Expense, 5%	$2,163,000	
Discretionary Fund, 25% of balance	10,274,250*	
		12,437,250
For apportionment for projects in the States according to population ratio	$15,411,375	
For apportionment for projects in the States according to land and water area ratio	15,411,375	
		$30,822,750

* Available for distribution as determined by the Administrator, CAA.

Three Countries Compare

(Continued from page 11)

vociferous clamor on grounds of health hazard.

3. The provision of an acceptable water supply rates only a fair third, and the comfort aspect overshadows the health.

4. The yardstick used by the public in evaluating health hazards is still visible dirt and objectionable odor.

5. Public works should be as complete as possible at the time of initiation, irrespective of immediate needs.

6. Municipal pride is more often a motivating force than general concern over public health.

7. Hygienic standards are grudgingly accepted by the people they are designed to serve.

8. Health education is premised on the misconception that the public wants to be educated.

9. Political, engineering, or health officers cannot expect their measures to be accepted on the basis of faith. The public recalls the occasions when either leader or official was wrong, and seldom if ever when he was right. There might have been a time, too, when the public was deliberately misled by its then leaders; and there have been times when leaders were honest and sincere but were carried away by their enthusiasm for some more or less visionary scheme.

10. Self-interest still is the strongest human motive.

Diesel Oil and Sludge Gas Produce Economies

EXPERIENCE with sewage gas engines at Tallman's Island sewage treatment plant, New York City, showed that successful operation with digester gas is possible with the injection of diesel oil in amounts of 5% to 7% of the total heat value. This was related by Richard H. Gould, Director, Division of Engineering and Architecture, Department of Public Works, New York City, in a paper delivered before the Federation.

Engines will perform well with 100% oil or any combination of oil and gas within the limits shown above. The combination will allow an operator to stretch the supply so that all normal power requirements can be met. Should there be a deficiency of gas during the first few months of operation, the plant can rely on fuel alone as a source of power. The cost of such power would normally be less than that of power from purchased electricity subject to the usual demand charges.

Sludge gas utilization does undoubtedly call for considerable extra effort in plant design and operation. With power installation that is reasonably loaded so that capital charges are not out of line, there is substantial margin in favor of utilization of this by-product.

In discussing this paper, A. M. Boehm, engine division, Worthington Pump and Machinery Corporation, New York City, pointed out that in new sewage treatment plants involving a number of engines for power purposes, all engines need not be of the dual fuel type, but only as many of this type as are necessary to provide initial plant operation and continuity of plant operation thereafter.

Scum Control Problems Solved

OPERATORS can solve scum problems in their digesters by recirculation, mixing, applying more heat, or using scum draw-off ports. The designer can allow for greater digestion capacity and provide means to deal with scum. And if the operator makes certain that everything put into the digester is removed, as gas, supernatant, or digested sludge, the likelihood of such problems will be remote. These statements were made by R. S. Rankin of the Dorr Co., New York.

Scum caused by grease and oil can be eliminated by raising the temperature to 95-100°F. In plain tanks, the lower zone heats up, but the heat fails to penetrate the sludge. Thus it is helpful to recirculate the contents from the bottom to the top, locating the discharge above the scum layer.

Some indigestible material, such as twigs, may find its way into the tank. If this cannot be removed with the sludge it will eventually occupy a sizeable portion of the tank, which will have to be emptied.

In discussing this paper, Harry E. Schlenz, Pacific Flush-Tank Co., stated that until recent years it has been the practice of many plant operators to avoid adding to the digesters the scum or grease removed from the sewage. Actually the digester is the ideal place to dispose of grease and scum, and the emphasis should be placed, not on the difficulties encountered, but rather on the benefits that may be derived as far as gas production is concerned. It is now definitely indicated that greases are readily digestible, with a resultant higher percentage of reduction of the volatile solids content of the grease than of the balance of the volatile solids in the digestion system.

Control measures may involve either liquid saturation, control of the temperature in the scum zone, or the addition of ammonia nitrogen. Liquid saturation may be accomplished by positive submergence of scum-forming material by an impervious structure, or by recirculation of digester liquor from portions of the tank where solids are undergoing the most active digestion. The use of relatively small amounts of ammonium sulphate, yielding about 25.6% of ammonia nitrogen, to the liquor being recirculated to the scum zone has also been effective in causing the scum to digest rapidly and disappear.

Mr. Schlenz pointed out that it is possible to use external heating methods and greatly increase the rate of scum digestion by discharging the higher temperature liquor at the surface. This system permits control of temperature to within half a degree and lessens the tendency of scum-forming materials to separate from the raw solids as they are added to the digestion system.

Stream Pollution Limits

THE primary objective in stream pollution abatement is the restoration of a stream to a condition suitable for certain uses common to the locality or region or the maintenance of the suitability of such uses. This was pointed out by H. W. Streeter, Engineer-Director, Water and Sanitation Investigations, U. S. Public Health Service.

One of the most useful standards established for stream sanitation is that established by the Ohio River Basin which divides streams into three categories: desirable, doubtful, and unsuitable. The coliform bacteria appears as the principal index of suitability with the desirable limit of 5,000 per 100 ml.; the doubtful, 20,000 per 100 ml. As a basis for maintaining fish and other acquatic life, the recommendation lists 5 ppm of dissolved oxygen as desirable, with a limiting pH value of 6.5 to 8.6 and the absence of preventable sludge deposits. A figure of 3 ppm shows the stream is "doubtful."

TVA requirements are somewhat more rigid and set up distinct requirements for each major water use. The recommendations state that streams meeting desirable requirements for a source of public water supply probably would meet all other requirements except for bathing.

The question often is raised whether a set of stream quality standards for one section would be applicable to other sections. So far as bacteriological standards are concerned, tests of applicability of the Ohio River standards against performance data in other regions have shown little, if any, need for modification.

Catching Up on Traffic Control

PHOTO COURTESY OF GEORGE VAN, NEWARK

Public Safety Director Keenan points to one of Newark's tall new traffic signals.

By JOHN B. KEENAN
Director of Public Safety
Newark, N. J.

NEWARK, in northern New Jersey and adjacent to New York City, is not only the metropolis and greatest retail center of the state but is also the geographical center of the richest and most populous section of the United States. Its location and its great airport, shipping port, federal and state highways, and largest coordinated system of coach service in America, have all contributed to making traffic control and facilitation a top problem.

Traffic congestion is not only bad for tempers and business, an ever-present discomfort and danger, but it exacts a startling economic toll in the form of accidents. These cost on the average about $3,000,000 per year—against $650,000 for fire losses.

Ask a Newark citizen what's the solution for traffic congestion and he's likely to answer: traffic signals. While this is far from the whole story, we do have General Electric signals on the four corners of 200 intersections. All were installed on the basis of actual conditions and accident history. For the last three years we have mounted them 15 feet to light center instead of 9 feet as formerly. They are suspended horizontally from ornamental brackets on Union Metal standards. For servicing them, we have just purchased one of the new tower lift trucks made by The American Coach and Body Company of Cleveland. Incidentally, we purchased this device from an advertisement in THE AMERICAN CITY without even seeing a manufacturer's representative.

Automatic Traffic Control

The controlling element of the central traffic control panel in the Traffic Engineering Bureau in City Hall is an I.B.M. master time clock, and program devices which provide for daily changes in the traffic control system automatically adjust intersection controllers and provide total cycle changes and flash-off adjustments as scheduled. A G-E supervising timer maintains system traffic progression plan.

On August 27, 1946, all U-turns were abolished in the central business district. In September, thirteen 40- to 50-foot streets in a congested area embracing several secondary business districts were made one-way. Experience with ninety-one one-way streets showed that both motorists and merchants approve them.

Parking and Walking Aided

Another September traffic project was the installation of 2,000 Mark Time Perfection parking meters, the first 1,000 of which were purchased outright at a 5% discount. These meters were requested by merchants situated along the eight streets and the two arterial highways leading to the central business area. They are in addition to 1,152 Mark Times in operation since April 1942. Meters have provided constant facilities for parking, eliminated arguments and favoritism, made police work easier, while the mere presence of marked spaces has produced orderly parking after 6 p.m. when the meters are no longer operating.

Newark's traffic rush hours, formerly 7 to 9:30 a.m. and 4:30 to 6:30 p.m., are now 7 a.m. to 6 p.m., with virtually all parking lots filled. Current measures to catch up with this problem and control it include more one-way streets, heavier fines, more parking meters and street markers, better cautionary signs, more motorcycles, and a stream of educational material. While there's much yet to be done, Newark tied with Denver for the Eddie Cantor Award of the National Safety Council "for establishing the outstanding record in the United States by reducing traffic fatalities in their communities during May 1946." The record was one fatality.

Parking meter spaces, pedestrian crossings, and stop lines are marked by a thermoplastic material cut to 6-inch by 6-inch squares and ⅛-inch thick. Adhesive is applied hot to one surface, and the marker is placed on the pavement, where traffic rolls it out flush. These Armor-Flex markers, when applied to pavement that is not cracked or broken, are much better than paint. We purchased 20,000 of them and are putting them in every day. There have been no replacements in three years. We also use these markers for such directions as "Wait for Light" and "Do Not Cross Here." All vertical cautionary signs are being replaced by new Scotchlite signs.

Police Radio

Our police radio system, installed in 1934, continues to be what THE AMERICAN CITY said of it in the February 1935 issue: "the finest tool which science has given to the police." Its value, of course, extends far into the field of crime prevention, and provides as well a speedy means of traffic and parking regulation. We have thirty-six cars with RCA 2-way equipment and fifty still with receivers only. These will be made 2-way as soon as equipment is available. The main transmitter, a Western Electric, is the original of 1934. Service is also supplied to the fire chief, the deputy chief, the battalion chief, and to two fireboats, in addition to ten maintenance trucks of the Water Department.

A thorough traffic survey shortly before the war recommended an increase of from thirty officers to forty. The report said, "In the final analysis, it is the motorcycle division which is best suited to concentrate attention on reckless driving, parking violations, and other dangerous practices." We now have thirty-five motorcycle men, and we have purchased additional Harley-Davidsons for thirty more officers.

Fines Raised

Until recently, the fine for improper parking was $1, and the fact that ticket and fine could be mailed in made it easy to pay. Our new ticket, a different color from the old one in order to draw attention to our new procedures, fines $2 for parking longer than one hour or without lights, and $5 for meter violation or parking in a prohibited zone, at a fire hydrant, 12 inches or more from the curb, or at prohibited hours. This schedule, coupled with procedures that abolished "fixed" tickets, is already showing good results.

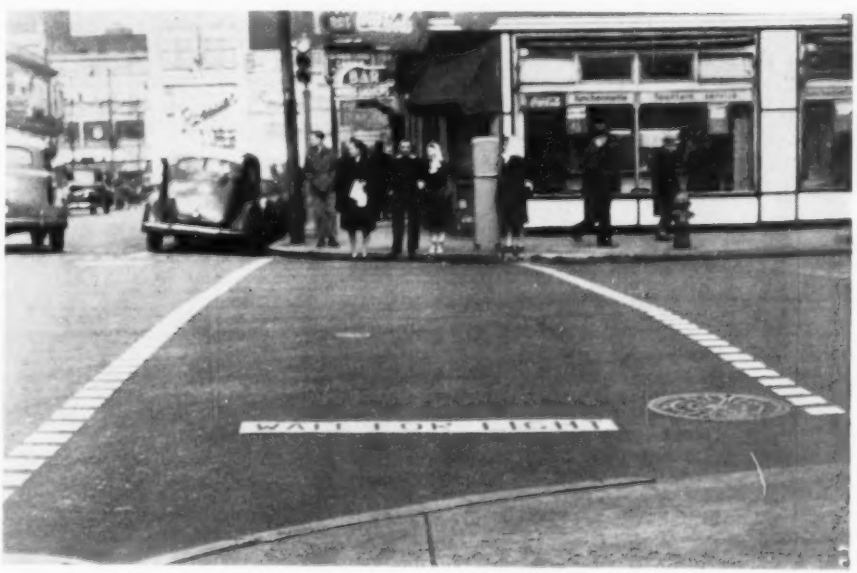
Education and Publicity

Education measures here consist of folders issued by the city and distributed by various agencies. For instance, a 3¼- by 4¼-inch folder issued in June was sent to 200,000 families by the New Jersey Telephone Company, the Public Safety Gas & Electric Company, and other cooperating agencies. The newspapers have aided with persistent effective campaigns for traffic safety.

The last word in accident prevention, however, is enforcement.

City Department Insurance

THE importance and variety of municipal insurance is indicated by a 1946 listing in the annual report of the Water Department of Dubuque, Iowa. Fire insurance totaled $50,500; boiler insurance, $40,000; tornado insurance, $5,000; accident insurance on equipment, $20,000; truck and auto insurance, $15,000; public liability, $30,000; compensation and employes' liability, $15,000; and surety bonds, $9,000—making a total of $184,500. Extending this figure on a per capita basis to all the cities in the United States indicates total insurance of more than $33,000,000 on water works property alone.



UPPER RIGHT: *Inside view of one of the traffic signal timers used in Newark.*

ABOVE: *Armor-Flex markers at intersections are a factor in pedestrian safety. Newark has purchased 20,000 of these thermoplastic squares, which, applied to uncracked pavement, have needed no replacements for the past three years.*

City Highways and City Parking—An American Crisis

By HAROLD S. BUTTENHEIM

This article embodies most of an address delivered by the Editor of The American City *at the Highway Transportation Congress of the National Highways Users Conference, Washington, D. C., September 26, 1946.*

While much of the data and many of the suggestions here presented are based on articles or reports previously published or mentioned in this magazine, it is hoped that the present compilation may prove helpful to many of The American City's *readers.*

WITH so many street and highway users deprived of so much in time, comfort, safety, and even cold cash, one might think that some city somewhere would take bold, vigorous steps to control traffic congestion. This is needed urgently if economic life in urban centers is not to be strangled by the hardening and clotting of their traffic arteries. Many municipalities have done something about their traffic, but where is there a city of any size that would hold itself up as a model of accomplishment? And the worst is not yet.

For the most part, auto movement *between* cities is *relatively* unhampered and free; it is when *within* or entering and leaving the city that motorist frustrations develop and that the situation is most serious. Speed highways between cities lose much of their value when the time saved on them is consumed by the delays in city streets. Today we measure distance in minutes—not miles. How long does it take to get to the place of work from your home? How long does it take to get downtown and back for a shopping trip? Those are key questions affecting everyone.

What *are* the solutions to the increasing congestion? Let me make it clear that I have no wand to wave that will produce an easy way out—nor any sweeping reform that can be applied to all cities. Traffic problems and their methods of handling will differ from city to city, and particularly with their size. Proposals for New York City may not be at all applicable to York, Pa., or Yorktown, Texas.

However, one situation most cities have in common—and that is that parking, loading, and discharge facilities are inadequate to meet present needs and wants. I use the term "wants" advisedly—it is questionable whether, in most instances, it is a want or a need for motorists to drive their vehicles, say for shopping purposes, into central city areas.

It might be assumed that the parking problem is one which those it affects understand. This applies particularly to downtown merchants who are face to face with parking difficulties every day. Motorists obviously can't be customers until they get their cars parked and their feet on the ground. Yet it is typically believed by an average merchant in a city where downtown congestion is marked that if parking of cars is not allowed at the curb in front of his individual establishment, customers will go elsewhere and his business will suffer. He generally opposes efforts to restrict parking at the curb in his area, and sometimes is even against the installation of parking meters.

With regard to the purchases made by different classes of shoppers in Los Angeles, it was found some years ago that the occupants of 68% of the parked cars made no retail purchase whatsoever. Only 16% of the total volume of purchases by the occupants of parked cars was made in stores which fronted exclusively on streets where the vehicles were parked. In a Chicago study, out of 96,000 store shoppers interviewed, only 8% came to the district by automobile. In New York, it is estimated that more than 98% of the shopping public uses mass transportation facilities.

Three Principles

Perhaps we should now state some general principles which can and should be applied and which might serve to clarify the picture—at least with respect to curb parking:

1. Streets are primarily provided for general public use as lines of communication for pedestrians and for the transportation of persons and merchandise; and the rights of the different classes of traffic to unlimited use of the streets, including the right to park, are subject to the public and civic welfare.

2. Unlimited parking may properly be allowed at all times in all business districts where it does not cost the traveling public more than it saves those who park, nor interfere with the expeditious movement and safety of street traffic and with reasonable access of vehicles to the curb.

3. The right to move a car is superior to the right to store a car on the public ways, and when or where parking causes a net economic loss to the public through hindrance to safe and convenient travel, there should be limitation—or in extreme cases, at certain hours, total abolition—of parking, both commercial and private. In some cities the complete prohibition during certain hours of private motor vehicles from congested downtown districts and limitation of commercial vehicles to consolidated service are to be regarded as an ultimate possibility.

Streets with parked cars greatly reduce the volume of traffic and the street capacity. Street widening is often planned and sometimes performed by municipalities—but consider how much less expensive it is to prohibit parking. Cars parked parallel to the curb block one traffic lane so that a majority of city streets are only about 40 feet from curb to curb; there is left but one lane in each direction if cars are parked parallel on both sides of the street. The street capacity is reduced by 50% in area and 43.8% in volume of traffic. On a street which is 60 feet from curb to curb, parallel parking on both sides leaves two traffic lanes in each direction but reduces the street capacity by 33% in area and 23.9% in volume of traffic.

Some other figures may prove interesting. A Detroit survey showed that an average of 3,380 lineal feet is available for parking per frontage mile. Allowing 20 feet per car, a total of only 165 cars might be dead-parked along each side of a frontage mile. These parked cars, it is estimated, utilize a traffic lane potentially capable of affording free flow of upwards of 2,000 cars per hour.

Studies have also been made of the number of cars which various cities can accomodate at the curb in downtown areas. Here are a few sample figures: Chicago's curb parking capacity in 1937 was 9,700 vehicles; New Orleans, 4,706 vehicles; Youngstown, Ohio, 1,844. Obviously, available curb space is woefully inadequate to take care of the downtown traffic requirements.

Parking Meters or No Curb-Parking

What about the parking meter? Since the first meter was installed in

Oklahoma City in 1935, the device has been tried out in not less than 750 cities throughout the United States, and it is reported that in only a dozen of these cities has their use been discontinued permanently. That the parking meter is a useful instrument in speeding up the turnover in parked cars at the curb, ousting the all-day parker, and reducing cruising for space, is indicated by its already extensive use and the present rapid extension of its use. At the end of 1945, parking meters were operating in 473 cities; the other 277 cities of the present total of 750 have been added this year; and many other cities are reported to be clamoring for installations that the manufacturers have not yet been able to deliver.

Most communities which have installed meters are pleased with the income they produce—over $100,000 a year in Long Beach, San Diego, Cleveland, Columbus (Ohio), Toledo, Minneapolis, Portland (Oregon), Memphis, Houston, Dallas, Fort Worth, San Antonio, Salt Lake City, Seattle, Spokane. A logical use of moneys received from parking meters in some cities might be the acquisition of off-street parking space so that automobiles can ultimately be stored where they belong—in untraveled areas rather than on public streets. In such lots parking meters might be used to collect the fees, as is now done at White Plains, N. Y., and Miami Beach, Fla.

Notwithstanding its present advantages, the fact must be recognized that the parking meter, based as it is upon the use of street space for the storage of vehicles, is a helpful palliative rather than a permanent solution to the real problem in most cities.

Types of Off-Street Parking Facilities

Additional off-street parking facilities are needed in every city. Existing private garage or parking lot space is generally inadequate to meet requirements. Moreover, most existing private parking facilities are poorly designed and offer little psychological attraction to the motorist. In the inner core of large cities there seems to be a profitable field for private capital in providing small open-deck or cage-type structures with roof parking, having a capacity of from 100 to 300 stalls. Parking garages of this type can now be of attractive design and so built as to provide ease of entrance and exit for the average motorist who is often afraid of driving up enclosed ramps and maneuvering his vehicle in tightly-enclosed areas. Where land values are not prohibitive, parking lots may be better revenue producers than parking garages, in addition to helping meet the need for downtown open spaces.

In some downtown areas both public and private parking lots exist and prosper. With rigid enforcement of curb-parking rules, commercial lots would probably increase in numbers and in earning power.

Many larger stores are finding it to their advantage to provide adjacent parking lots and buildings, sometimes operated with small fees, sometimes provided free as a service to customers. In several cases merchants have banded together to operate parking lots—in Oakland, Calif., as long ago as 1929. There the Downtown Merchants Parking Association operates six lots, strategically located. To obtain two hours free parking, customers must have their parking tickets validated by one of the member groups—although, because of the goodwill angle, a person does not have to make a purchase to get his ticket validated. Members are billed monthly on a pro-rata basis to make up operating deficits, with each member charged in accordance with the number of tickets he has validated. Developments of this sort should be encouraged.

State Enabling Legislation and Zoning Aids

Another type of parking solution, as outlined by Mr. D. Grant Mickle recently, is state enabling legislation for local parking authorities. Some twelve states now have laws permitting municipalities to provide parking lots. The type of legislation contemplated is broad—permitting cities to make studies and take whatever local action may be found necessary. The Minnesota Enabling Act of 1943 is one of the best of these parking authority laws. If private enterprise wishes to solve the parking problem locally, the city may help by tax and zoning legislation which will encourage such private solutions. The $1,500,000 garage with a 1,700-car capacity under Union Square in San Francisco is an example of financing largely by benfited businessmen and property owners.

In areas where private action will not and cannot meet the needs, the city is empowered in some states to set up benefit districts, acquire land by gift, lease, or condemnation, and build and operate parking facilities. In Kansas City, benefited property owners are paying 80% of the cost of parking area site and construction, with assessments spread over 10 years. The city is paying the other 20% of the cost. Another scheme, outlined in THE AMERICAN CITY for September 1946, is one in which a city—Bluefield, W. Va.—has authorized the issuance of bonds specifically for the construction of a modern type of parking building in the center of the city to be municipally owned and operated. There seems to be growing opinion that parking terminals should be considered as public utilities.

It might be possible, as recently restated by Nathan Cherniak, Economist of the Port of New York Authority, for cities to adopt an ordinance requiring that every new commercial building regarded as a "traffic generator" provide adequate space for the parking of autos and loading and unloading of trucks. Adequacy would be defined in the law by a schedule—one parking or truckloading space for so many square feet of interior building space, varying with different types of buildings. If such an ordinance proves effective, Mr. Cherniak suggests a second, requiring existing buildings to make similar provisions within a 5- to 10-year period of grace.

Fringe Parking

Perhaps plans such as those now proposed in Dallas, Texas, will aid best in alleviating the situation. Dallas is contemplating two kinds of parking—terminal and fringe. One of the larger Dallas stores will soon open a 600-700-car private parking lot on the north side, with shuttle bus service operating on a 5-minute schedule to carry people the blocks from that parking lot to the downtown section and back. Also being considered by the city is a much larger lot near one of the high-speed downtown arteries. It is estimated that this lot will park approximately 5,000 cars for about $3.00 a month per car, plus $2.40 for shuttle bus service. All of the fringe developments will have rapid transit service into town on close schedules. The Dallas Traffic Committee also proposes building four parking terminals downtown, so located that people coming into the downtown district can park in these modern parking terminals easily and at a cost that will compare with the prices charged by garages operated by private industry.

In Cleveland, the Cleveland Transit System is now operating a special low-fare loop bus on a 2½-minute headway, connecting two parking lots with the downtown district. In Atlanta, a large department store is operating bus service from a store parking lot, which is approximately one mile from the downtown district.

It seems evident that any consideration of traffic problems must take into

(*Continued on page 123*)

Points to Watch in Building

and Maintaining a Swimming Pool

By ELWYN E. SEELY
Consulting Engineer
New York, N. Y.

WHEN building a swimming pool, one should give careful consideration to the following: (1) the design and construction of the pool, which involves a suitable design, foundation, structure, and equipment; and (2) the sanitary maintenance of the pool after it is built, which involves sterilization, recirculation, and cost of upkeep.

Thinking in terms of the over-all design, one should keep space requirements in mind. For example, only a few swimmers participate in diving; consequently this fact should be considered, and those engaging in diving should be segregated from the general swimming area. A wading area for small children and sand beaches separated from the pool should also be considered in the space arrangement.

In the building of a pool, the foundation is of primary importance. The soil, which must have uniform-bearing qualities, preferably should be a good quality sand, sand-gravel, or sand-clay, with isolated soft spots removed. Drainage should be installed at the base of the wall wherever there is a possibility of the water's rising above the bottom of the footings.

Reinforced concrete is universally accepted as construction material for outdoor pools. The wall generally will be of a cantilever design with the footing on the pool sides designed to form a shelf and keyed to receive the floor slab. When the pool is empty, the sides act as retaining walls against earth pressure. Counterfort walls are not necessary for low walls but should be considered for walls over 10 feet, or where special conditions of loading exert abnormal stresses. Provision should be made for expansion and contraction by installing joints at regular intervals of about 15 feet; then these joints should be lapped, keyed, and waterproofed with oakum and asphalt. A copper water stop slotted into the walls and lapping both walls from inside to outside may also be installed. If the floor covers a large area, expansion joints are necessary. In general, slabs should not exceed 40 x 60 feet.

An indoor pool at basement level is usually similar in construction to outdoor pools. It is often desirable to install pools in upper floors of buildings, on boat decks, and in other situations. In cases where pools are to be constructed in the floor system of a building, steel plate jointed by arc welding offers one solution. The plates are lap-welded, with both sides welded to assure freedom from leakage. Since this type of tank usually uses a tile finish, the design must specify a roughened surface. This can be obtained by welding small plates and rods to the wall plate and coating with gunite to form a bonding surface for the tile.

In planning the equipment of the pool, laminated diving boards, which have become increasingly popular, might be considered. The use of a sanded finish to provide a sanitary and satisfactory non-slip surface is preferable to cocoa matting, which offers a breeding place for fungus spores. Concerning the height of the diving boards above water, the American Public Health Association recommends a limitation of 10 feet, with clearance above being at least 12 feet.

Keeping the Pool in a Sanitary Condition

After a swimming pool is built, there is now the job of maintaining the pool in a sanitary condition. Since continuing contamination is introduced into the pool water by the bathers, there must be continuing disinfection. A condition producing a constant predetermined bacteria count should be maintained by the use of chlorine sterilization.

The use of hypochlorite solutions or chlorinators producing chlorine by electrolitic action or sodium chlorides are considered in the class of intermittent treatment and should be used only on small installations. A check must then be made to assure maintenance of a residual. The liquid

chlorination process is the most satisfactory method of sterilizing swimming pool water, with the quantity of chlorine to be introduced being dependent on the quality of the water, its bacterial content, and the time of contact. Proper disinfection is accomplished when the residual chlorine content is from 0.2 to 0.6 ppm. The residual test should not be accepted as a final analysis, but a constant record of the bacterial content must be maintained. Over-chlorination, resulting in excess residual, produces unpleasant odors, tastes, and irritations to the mucous membrane. Potassium permanganate in quantities under 0.3 ppm may be used to eliminate objectionable taste.

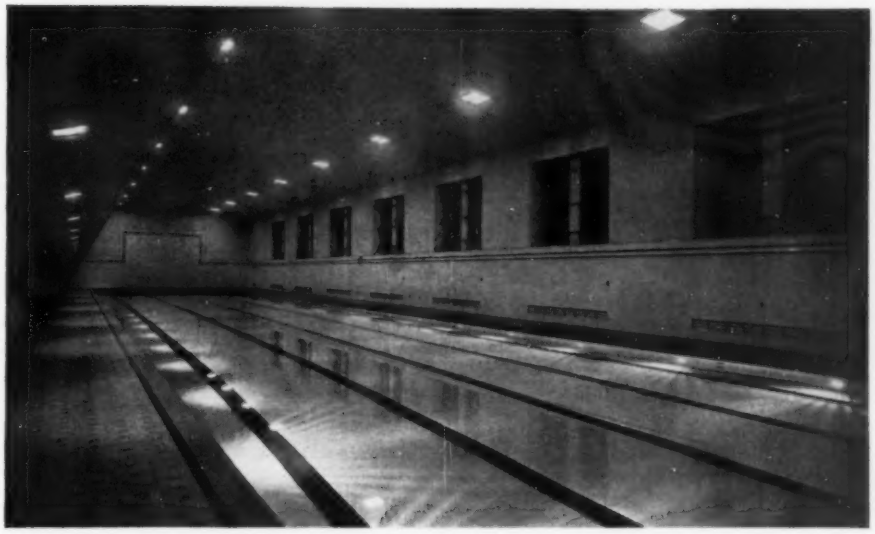
The treatment of water by chloramine process has become increasingly popular. In this treatment, the ammonia is introduced prior to the chlorine, and sufficient time is allowed for it to diffuse (about 20 seconds) before encountering the chlorine. The action of ammonia and chlorine produce chloramine, with many resultant advantages over simple chlorine treatment.

Clean sanitary facilities should be maintained in conjunction with the pool; such as, dressing rooms, showers, and toilets—and in sufficient numbers, so as not to be overtaxed during the peak loads. It is best that the interior surfaces be hard and smooth, washable, and free from dampness, with the floors sloping and provided with drains for hose flushing. In order that bathers use showers before entering pool, access to pool should be through the shower room. Infectious foot diseases may be prevented by foot baths containing 0.3 to 0.6 per cent solution of chlorine. A segregated section should be provided for spectators, who are not admitted to runways or facilities that are for exclusive use of the bathers.

The recirculating system of the pool will usually consist of pumps, piping, filters, hair catcher, and suction cleaner, with the size of the pump, piping, and other like equipment depending on the recirculation rate. A recirculating rate of 2 (two complete turnovers a day) will maintain satisfactory cleanliness. Rapid sand filters are more satisfactory than slow sand filters because of the lower capital cost, the smaller space requirement, and the quicker cleaning time. A loss-of-head gage installed on the effluent line will indicate when the filter needs washing. Larger installations require automatic rate controllers to assure maintenance of a uniform filtration rate, with a loss of head of 5 lbs. indicating the necessity for washing. A coagulant will also be necessary in large outdoor pools to maintain the clarity of the water. Careful consideration should always be given when interconnections are made between the recirculation piping and a public or private water supply. A strainer should be installed in the circulation system at pool outlets to pump to keep hair and lint from entering the pump filters. A connection to the vacuum side of recirculating pump for attachment of a suction cleaner is needed, and a graduated throttling valve should be installed on the pool outlet line to adjust the flow to the pump for maximum efficiency when suction cleaner is used.

One problem frequently encountered by those in charge of swimming pools is the control of algae. Copper sulfate treatment is recommended for this. The start of the growth can be prevented by continuous recirculation and chlorination. Accumulated solids on the bottom of the pool and material adhering to the walls should be removed daily. Suction cleaners may be used if a recirculating system is not in use.

The cost of constructing a swimming pool varies since a swimming pool may range from a water tank to an elaborate affair. With reasonable care in design and operation, a clean and sanitary development can be produced and maintained for a reasonable cost. These considerations do not mean that swimming pools are cheap to build but that small communities may have pools. Expense will be in relation to simplicity of design. A simple pool 50 x 100 feet with required equipment can be built for approximately $20,000.



Illustrated above is the attractive indoor pool at Yale University which was designed by Mr. Seely. John Russell Pope was the architect. At the left is an open air salt-water pool, at Sebasco, Maine, which was also designed by the author. F. Elwood Allen was the recreational consultant, with whom Mr. Seely worked in designing Sebasco's pool.

Check List for Appraisal Of Swimming Pool Operation

THE Division of Sanitary Engineering, Illinois Department of Public Health recently issued an excellent bulletin and study on swimming pool operation. The check list included at the end of the report may be of value to municipal health officials and others in determining and appraising the quality of swimming pools in their areas.

The instructions for scoring are that two points should be credited for each "yes"—with 100 indicating perfect operation. The check list follows:

1. No disease has been transmitted at the pool in the past year. (Is this statement true?)
2. No accident has occurred at the pool in the past year. (Is this statement true?)
3. Do you have an adequate first-aid kit?
4. Do you have a telephone with doctors' call numbers posted?
5. Do you have rescue equipment and a first-aid room?
6. Are periodic checks made to find dangerous practices or conditions, and are they followed by proper action?

7. Are water depths clearly marked?
8. Are there adequate, well-trained, tactful, and conscientious personnel for all necessary duties?
9. Are premises clean?
10. Are bathhouse floors and fixtures cleaned and disinfected regularly?
11. Are "Personal Regulations" posted and enforced?
12. Are sufficient toilets and showers provided?
13. Are suits disinfected before being worn into the pool?
14. Is each swimmer required to take a nude shower, with soap, before entering the pool?
15. Is there an adequate supply of warm water?
16. Is liquid soap provided?
17. Are towels laundered after each use and properly stored and handled?
18. Have duck boards and mats been removed?
19. Has the foot bath been eliminated or converted to the flowing-through type?
20. Is the hair-and-lint strainer cleaned at least weekly?
21. Have all cross-connections been eliminated?
22. Is an approved disinfecting-agent residual maintained in the pool water at all times?
23. Are adequate and accurate residual chlorine and pH test kits provided?
24. Are frequent tests made for residual chlorine and pH?
25. Are you using a proper dosage of alum, following filter washing?
26. Is the pH maintained between 7.2 and 7.6?
27. Is the chemical-dosing equipment in proper operating condition?
28. Have the filter interiors and sand surface been inspected in the past year?
29. Are the filters being properly washed when necessary?
30. Do you know the volume of water in the pool?
31. Are the floors and pool walks properly drained, easily cleaned, and surfaced smooth, yet nonslip to wet feet?
32. Is the suction cleaner in good operating order.
33. Is the pool water crystal clear?
34. Is dirt removed from the pool bottom?
35. Is the pool free from algae?
36. Have you determined the swimmer capacity of your pool?
37. Is the water temperature maintained in the range of 76° to 78° F.?
38. Are spectators prevented from walking on the pool walks?
39. Are daily operation records kept, with duplicate sent to the Department of Public Health each month?
40. Are frequent bacteriological analyses made of the pool water?
41. Have the last ten analyses been reported: "Water safe for swimming?"
42. Are proper off-season protection measures taken?
43. Has the wading pool been converted to a spray pool?
44. Do you have an approved rating from the Department of Public Health?
45. Is the certificate of classification posted at the bathhouse entrance?
46. Do you have adequate text book references on pool operation and water treatment?
47. Are all dirt, sand or grassy areas eliminated from the pool area?
48. Has a "Learn to Swim" campaign been carried on at the pool during the past year?
49. Has anything at the pool been painted in the past year?
50. Is everything possible being done to provide safe, clean, enjoyable swimming facilities?

Laboratory Building Harmonizes with Residential Area

To the Editor of THE AMERICAN CITY:

THE article by Ralph Walker in your September issue on page 103, "Research Moves to the Country," that discusses types of non-nuisance industry suitable for carefully zoned residential areas, suggests to the undersigned that your readers may be glad to know about a recent development in Des Plaines, Ill.

Faced with a factory construction program in an area rapidly becoming residential, the Benjamin Electric Manufacturing Company built a $100,000 laboratory plant set in park-like grounds, which is eminently satisfactory to townsmen.

Carefully avoiding billboards and electric signs, the building's designers relied instead on long curving lines and a towering rectangular window for identification. A utility conference room will be available for meetings of community groups, and public tours of the plant and laboratory are planned.

Dedicated to the "advancement of the science and art of illumination," the laboratory is a welcome addition to the streets of this suburban community. A wall of Libbey-Owens-Ford's heat-absorbing plate glass across the south and west facades protects the workers' eyes from the heat and the glare of the sun.

Good design can be a top advertisement, for the laboratory has become a virtual showplace in the area, already attracting visitors from all sections.

CARL BYOIR
10 East 40 St.
New York 16, N. Y.

Zoning and Planning Notes

THE page by Frank B. Williams under the above heading which has been a regular monthly feature of The American City *for the last twenty-four years is omitted from this issue because of the illness of Mr. Williams.*

It is hoped that publication of this page will be resumed next month.

Sewer Revenue Financing*

Legal decisions resulting from the Miami and Daytona Beach, Fla., sewer revenue financing ordinances emphasize the interdependence of water and sewage works, thus clarifying the legality of sewage works financing on the basis of water use charge.

By ROBIE L. MITCHELL, Attorney
Masslich and Mitchell
New York City

THE subject of sewer revenue financing is very important. The health of the people in many localities is seriously menaced today by the pollution of rivers, harbors, inland, and coastal waters. The construction of sewage disposal systems to remove this menace is near the top of the list of post-war projects which have been planned by many cities.

How is this construction work to be financed? In the past such construction has been made possible by issuing general obligation bonds. In recent years, constitutional limitations and restrictions on the issuance of bonds or the incurring of debt have made it necessary to finance such construction with revenue bonds payable solely from the proceeds of sewer service charges to be imposed on those whose sewage is disposed of or treated by the disposal system or treatment plant.

Legal Questions

The following are the principal legal questions that we found it necessary to answer when preparing the Miami and Daytona Beach, Fla., ordinances:

1. *What are sewer service charges?* Are they related to the taxing power, or are they to be classed as special assessments based on benefits? If the former, must the proposed bonds be authorized at an election, or must they be included in computing constitutional or statutory debt limits? If they are to be treated as special assessments, should not provision be made for a public hearing after proper notice? Or are they to be treated merely as a charge for services rendered?

2. *On what factors should the sewer charges be based?* On the quantity of water consumed on the premises, or on the number and kinds of sewer outlets, or some other factor?

3. *How shall the collection of delinquent charges be enforced?* By shutting off the water, or by making the charges a lien on the property, subject to foreclosure, or by certifying them to the tax collector for collection in the same manner as delinquent taxes?

What Sewer Service Charges Are

In my brief before the Florida Supreme Court, I urged that the sewer service charges do not constitute and are not related to taxes or special assessments for the reason that:

"They are merely charges for services rendered. Fundamentally they are identical with water rates. In a modern city a water works system would be utterly useless without a system for the disposal of sewage. The service rendered by the water works system is only half of the complete service required. Through the water works system the water which has been purified in accordance with standards prescribed by the proper health authorities is brought to the premises of the consumer for use. Through the sewer system the identical water, carrying the pollution resulting from its use in bathtubs, showers, sinks, washtubs and toilets, is taken from the premises and disposed of in accordance with standards prescribed by the same health authorities. For the service rendered by the water works system, water rates or charges are imposed. For the service rendered by the sewer system, sewer service rates or charges are imposed. *The consumer does not pay for the water in either case, but for its use, for the service rendered.*" *

Shortly after I dictated this statement for the brief, there came to my desk the June 4th Advance Sheets of the *South Western Reporter* containing a recent decision of the Arkansas Supreme Court in which that court said:

"A sanitary sewer system without water would be a total loss, and a water system without a sanitary sewer system would be impractical, if not entirely useless. So each complements or supplements the other."

* Italics by the editor.

Factors in Sewer Revenue Financing

1. A sewer service charge is not a tax or a special assessment. It is a charge for services rendered and is identical with the water rates.

2. A water works cannot exist without some method of sewage disposal, and a sewerage system is useless without a water works. Therefore, the two are indissolubly combined into one municipal service.

3. The acceptance of the water rate based on the volume of water used as a fair method of financing water works improvements is in itself evidence that a sewer rate based mainly on the volume of water used is also fair.

4. A city has the right and duty to use all reasonable means to protect the public health, and the requirement that all inhabitants must connect to the sewerage system falls within the scope of this duty.

Of course I revised the brief to include this decision and this splendid quotation. The Florida Supreme Court in its decision sustained the argument in every respect and held that the imposition of fees for the use of the sewage disposal system is not an exercise of the taxing power or the levy of a special assessment, saying:

"A sewer system is complementary to a water system. A sewer system would be of no value without a water system, and a water system would be entirely incomplete without a sewer system. So the principles of law which would apply to one system must likewise apply to the other."

What Factors the Charges Should Include

The second question is: "On what factors should the sewer service charges be based?" We provided in the legislative acts that the sewer service charges "may be based or computed either upon the quantity of water consumed, or upon the number and size of sewer connections or upon the number and kind of plumbing fixtures in use in the premises connected with the sewer system, or upon the number or average number of persons residing or working in, or otherwise connected with, such premises, or upon any other factor affecting the use of the facilities furnished or upon any combination of the foregoing factors."

* Based on an address delivered by Mr. Mitchell at the Municipal Forum of the National Security Traders Association, Inc., held in Seattle, Wash., September 19, 1946.

The sewer service charges which were finally adopted by Miami and Daytona Beach and which are incorporated in the authorizing ordinances are in each case a certain percentage of the water bill, which in turn is based upon the quantity of water consumed as determined by meter measurements. This method, which appears to be the most equitable, is the method which was recently adopted by the City of Philadelphia and sustained by the Supreme Court of Pennsylvania. It appeared from the Court's findings of fact in the Philadelphia case, and it is recited in the Miami and Daytona Beach ordinances, that there is no meter that is practicable for use in the city for the measurement of small quantities of sewage; therefore, it is necessary to find another standard by which to measure the charge to be made. It also appeared in the Philadelphia case and is so recited in the Miami and Daytona Beach ordinances that the water rates, to which the sewer charges refer, have been in force for many years and their fairness has never been challenged. Both the Pennsylvania and the Florida Courts sustained the ordinances for the reason that the amount of water consumed in any property is a reasonably fair measure of the use of the sanitary sewer system.

How to Collect Delinquent Charges

We come now to the third question: "How shall the collection of delinquent charges be enforced?"

The Miami and Daytona Beach ordinances provide that the amount of the sewer service charges shall be included in the water bill, each bill showing separately the amount of the sewer service charges and the amount of the bill for water. Each ordinance provides that if the sewer service charges are not paid within 30 days from the rendition of the bill, the City shall discontinue furnishing water to the premises and shall disconnect the same from the water works system.

In approving this method for the collection of delinquent sewer service charges, the Florida Supreme Court said:

"Question Three is closely related to Question Two because it challenges the method provided for the enforcement of the charges for the use of the sewage disposal system.

"It is uniformly held that the City may cut off the water being furnished by the City to a consumer when such consumer fails to pay the water bill.

"It appears to us that if no constitutional rights of the owner or occupant of premises are violated by shutting off the water for nonpayment of the water bill, no such right will be violated by shutting off the water for nonpayment of the bill for use of the sewage disposal system, the two services being so interlocked that neither can be effective without the other.

"It must also be observed that the Legislature has specifically authorized the City of Miami to use this means for the enforcement of the payment of the charges for the sewer service.

"We are conscious of the fact that the Supreme Court of Alabama * * * reached an opposite conclusion in discussing this question but we are not willing to follow that court in this regard because it appears to us that the Alabama court entirely overlooked the interdependence of the sewer system on the water system and also that the two were so closely related that they could * * * be rightfully considered as one transaction. It is also true that it does not appear in the Alabama case that there had been legislative authority to combine the water system and the sewer system under one operation as there has been here."

Can Sewer Connections Be Made Mandatory?

There is another question which relates to an exercise of the police powers and which may be important in considering the soundness of the proposed financing in cases where, as in Miami, the premises of a substantial percentage of the population are using septic tanks not connected with the sewer system. This involves the validity of provisions requiring owners of improved property to connect with the sewer system and to cease the use of any other method of sewage disposal.

The lower court found that the present situation, resulting from the lack of a sewage disposal system and the flow of raw sewage into the Miami River and the Biscayne Bay for many years, constitutes a serious menace to the health of the inhabitants of the City and the entire surrounding territory and is detrimental to the business and commercial interests of the city. In sustaining this provision, the Supreme Court said:

"The reasonableness or unreasonableness of the provisions of the section complained of must depend largely, and may depend entirely, upon the character of the terrain of the area affected. The testimony in this regard was adequate to constitute substantial basis for the finding of fact, supra.

"What may be considered an unreasonable requirement to be applied in a village located on the red clay hills of Leon County might be a regulation vitally necessary for the protection of the public health and welfare of the inhabitants of any city, the larger portion of the terrain of which is not more than 10 or 12 feet above sea level and a less distance above the average water table. Private rights must always be subordinated to public rights, and the public health is as sacred as any public rights can be. So it is that it may be conceded that the City may use all reasonable means to protect the public health. To require the inhabitants of a city situated and located as Miami is shown by the evidence to be situated and located to connect their structures with the sewage disposal system furnished and maintained by the municipality, the cost of which must be paid by the people of the municipality, is not an unreasonable or unwarranted requirement when the municipality has been granted the power to enact and enforce an ordinance containing such requirement."

We cannot, of course, assume that courts of other states will follow the decision of the Florida Supreme Court. But, in my opinion, the decision is sound and paves the way for such financing in other states. I believe that the Miami and Daytona Beach legislative acts and the authorizing ordinances may very well serve as models to follow in other states with changes to meet different constitutional requirements and local conditions.

Federation Breaks Attendance Record

Sewage works men rolled up a new record in attendance when a total of 812 registered for the 19th annual meeting of the Federation of Sewage Works Associations that was held October 7, 8, and 9 in Toronto. This exceeds by a full two hundred the previous record set in 1943 at Chicago.

The Canadian Institute had the largest attendance record; the Central States Association was a close second. However, scoring on a man-mile basis, which was the basis used in deciding the recipient of the attendance award, the Central States Association ranked first with a total of 35,500. The Canadians were second with 18,443; the New York Association, third with 16,878.

Next year's meeting will be held concurrently with the 1947 conference of the American Water Works Association at San Francisco during the week of July 21, 1947.

W. J. Orchard Gets Honorary Membership

UPON William J. Orchard, general manager of Wallace & Tiernan Co., Inc., the Federation of Sewage Works Associations bestowed its highest honor, that of honorary membership, at the annual conference in Toronto.

The honor thus conferred upon Mr. Orchard brings to him the outstanding distinction of being one of the few men to receive honorary membership in both the Federation of Sewage Works Associations and the American Water Works Association.

Urban Redevelopment

(*Continued from page 94*)

instead, blocking private participation which might otherwise be forthcoming.

If federal urban redevelopment legislation is passed, local governments, when otherwise conforming to state requirements, should be permitted to receive any federal assistance or credit which may become available. Similarly, there should be provisions to enable local governments to receive any state loans or funds which may be advanced.

If other major tax reform does not seem immediately feasible, perhaps, as allowed under Indiana law (enacted specifically for Indianapolis), certain municipalities should be allowed to levy a local tax for the specific purpose of securing funds for land assembly. In Indianapolis the whole municipal area is established as a special taxing district. The tax amounts to 10 cents on each $100 of assessed valuation of both real and personal property for the first two years, and 5 cents thereafter.

State legislation should generally be liberalized to permit greater direct investment by banks and insurance companies in rental housing projects and urban redevelopment. In at least one state such provisions have become a part of the redevelopment law. In some Southern states, especially, where large private pools of investment capital are more difficult to tap, the financing and operating of housing projects on a wholly-owned basis by savings banks and insurance companies should be encouraged. Moreover, such fiduciaries should be allowed to pool their capital for investment in the larger projects.

With the several new projects already being planned and under construction in the states which permit direct institutional investment, there is little doubt that the large financial institutions are turning increasingly toward housing and urban development as fields into which to channelize their huge, growing assets.

Some have argued that municipalities can proceed under existing powers in solving their problems. Tax delinquent land can be seized and either sold at a nominal value to veterans and others for housing purposes, or held for future redevelopment. This would help offset the spiraling trend of land costs.

It is stated that in the thirty-eight states which authorize the creation of local housing authorities, these authorities now have many powers which can be used for urban redevelopment and the provision of moderate rental housing. The authorities have the power to acquire land by condemnation, issue bonds for housing, and receive certain federal and state tax exemption. With various controls and upon certain guarantees, it is believed that they can exercise these powers for a private corporation, which could then build a redevelopment project without additional state legislation. Although Detroit is proceeding on a project under such a scheme, legal questions may still arise, and it should be evident that the passage of special or improved state urban redevelopment laws is more desirable.

In any case, though, if the cities of the country are not, in the words of Catherine Bauer, "to continue the fearful trend toward segregated one-class, one-type, one-use, one-race antheaps which we sometimes have the nerve to call 'planned neighborhoods,'" federal legislation must be enacted to provide suitable housing for the lower income groups which cannot be served under state urban redevelopment legislation as it now exists. Such housing must be integrated with and made part of any urban redevelopment that is contemplated. Municipal officials must face the problem of displaced families in redevelopment areas—a problem which in many cities may require state or federal aid. When materials again become available, funds will be needed for special transitional projects to handle such families on a more or less "transient" basis until they can move back into the area being developed or into another more permanent project.

Emergency methods to meet the housing crisis must be further explored. Action must be demanded by municipal officials on special state and federal legislation, without which they will be powerless to handle the situation on any comprehensive scale.

Highways and Parking

(*Continued from page 117*)

account the fact that more people can be moved in and out of the city by mass transportation more quickly and efficiently than by any other means. Every encouragement should be given toward providing fringe parking for people who must use their cars when coming to the city and providing a system of rapid, short-schedule, comfortable mass transportation.

Staggering of Work Hours

The planned staggering of work hours was a wartime technique which, to my mind, should receive greater consideration, particularly during the interim period ahead when cities still will be striving to reduce strangling congestion. The canyons of the downtown financial district of New York City, for example, are packed and thronged with crowds and vehicles during the business day. Yet a few hours later they are almost completely desolate and empty. *The New York Times* has even pointed out editorially how pleasant it is to walk and stroll or even ride a bicycle in Wall Street on an evening or Sunday. Some guided cooperation among large-city employers could do much to ease the traffic and transportation situation during the peak entry and departure hours in the crowded business area.

On this subject of staggering hours, there is another approach which might prove fruitful. Of course, every city should have as one of its primary considerations provision for truck terminals, and certainly bus terminals, so located and designed as to interfere as little as possible with central city area traffic. However, some attention should be paid to the possibility of having trucks, certainly the larger ones, prohibited from loading and unloading on city streets during business hours, or, at least, during especially congested periods.

The Quick and the Dead

Also, in most discussions of traffic planning, the pedestrian, poor fellow, is given as little consideration as he gets from most motorists. Legally, the pedestrian has as much right on the street as a vehicle, even though he doesn't have a horn, has no brakes to screech, isn't so brightly painted (usually), so sturdily built, or so large and heavy. Yet, pedestrian traffic under present-day conditions certainly interferes greatly with vehicular movement, and vice versa. Moreover, it is the pedestrian who most often gets hurt. It is too nearly true, as the wisecrack has it, that there are just two classes of pedestrians—the quick and the dead.

There can be no doubt that the Federal Aid Highway Act of 1944 will

(*Continued on page 139*)

76% of Milwaukee's Transit Riders PICK TROLLEY COACHES!

This is the crowd that turned out to welcome Milwaukee's first trolley coaches in 1936. With the addition of a new line each year (1936 through 1941), similar rider enthusiasm was shown. And in 1946, Milwaukee's riders like trolley coaches better than ever.

Trolley-coach service most nearly approaches the kind of ride one gets in his own car. That's why 76% of Milwaukee's public-transit riders prefer trolley coaches. These facts were brought out by the Advertising Research Foundation, a nationally recognized authority, in a recent survey of Milwaukee's transit riders.

Here's what this public preference means to you: According to authoritative engineering studies, public-transit vehicles use street space *seven times as efficiently as automobiles*. Thus, when transit service is so attractive that people use it regularly and leave their automobiles at home, there is less congestion on city streets, easier accessibility to every part of the city, less decentralization, more stabilized realty values, steadier tax receipts. And—as more and more people use transit—more street space is released for those who must use their automobiles for daily intown travel.

Preferred by the public—fast, comfortable trolley coaches are being universally acclaimed as the ideal vehicle to keep public-transit riding high and traffic congestion low. Their smooth stop-and-go and safe curb loading enable trolley coaches to maintain high schedule speeds safely. And their greater flexibility and maneuverability make it possible for their drivers to keep moving in congested traffic. That's why these speedy electrics hold their own in busy traffic lanes and enable all traffic to move faster.

If you'd like to investigate the possibility of using trolley coaches on your city's transit system, a G-E transportation specialist will gladly help you determine on which lines these electrics would be economically best suited. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Have you seen

LIFESTREAM OF THE CITY

the movie that shows how to minimize traffic congestion? Ask your G-E representative to arrange for a showing.

GENERAL ELECTRIC

Traffic Control and Facilitation

Keeping Police Batteries Charged In a Hilly Square Mile

New batteries and generators solve Weehawken's police radio problem.

By EDWARD KIRK
Chief of Police
Weehawken, N. J.

Author Kirk and police mechanic, who points out heavy-duty battery and alternator.

IN 1943 we installed our first radio communication system: FM Motorola equipment in three Ford patrol cars, a detective squad car, an ambulance, and an emergency truck. At that time we had only thirty-five men, and our work had tripled. We found the new communication system most timely.

Following the installation of radio, however, we had a persistent headache, caused not by the radio equipment but by the fact that the car batteries and generators were unable to carry the electrical load. The generator would not, or could not, give the battery sufficient amperage at idling speed. Instead of the prescribed thirty, they were giving five to ten with the motor idling. Weehawken, with a population of 15,000, is only a mile square, with short streets that vary in elevation from 2 to 200 feet above the Hudson River. The town is all uphill and downhill and has no long lazy runs for battery charging. With motors running twenty-four hours a day, the batteries still ran down, a car was out of service every other day, and a generator burned out in two months' time.

Our battery service man told us about William H. Hand, Director of The Hand Laboratory, Nyack, N. Y., and we discussed the problem with Police Commissioner John H. Schuster, who has sparked the department for six years. Mr. Hand put his 165-ampere-per-hour heavy-duty storage batteries in our cars and recommended the installation of alternating current generators made by The Leece-Neville Company of Cleveland. These, in combination with rectifiers and voltage regulators of the same make, are designed for 6-volt or 12-volt systems with an output of 60 amperes. These installations solved our problem in August 1946 with tremendous savings in motor wear, oil, and gasoline.

The patrol cars are on duty at school crossings 3½ hours a day. Their motors used to be kept running. With the Hand battery and the Leece-Neville alternator, the car motor is turned off and the radio left on. Even with the motor at slow idle, the alternator feeds the battery 30 amperes when the battery is not fully charged.

To facilitate car repairs, formerly done at a private garage, we employed a mechanic and built him an up-to-date shop at Commissioner Schuster's suggestion. A service for the citizen which the commissioner has sponsored is free transportation in our police ambulance if a resident must be rushed to the hospital. Also, he has installed a modern records system which includes an up-to-date card file of every person living in Weehawken. The department furnishes photostats of discharge papers free of charge to returned veterans.

Commissioner Schuster's philosophy of public service has become the action of the Weehawken Police Department. He said to us: "When anybody comes to the Police Department for information, never say you don't know. If you don't know, find out. Make it your business to sell your services to all citizens in a polite, pleasant, and efficient manner."

Parking Meters Help Solve Traffic Problem

By DONNA L. HUGHES

THE acute traffic problem that plagued Rocky Mount, N. C., during the war, and gained momentum with the removal of gasoline restrictions, has practically been solved by the installation of 192 parking meters in the heart of the shopping district.

Since the meters went into operation on July 22, they have cleared the conglomerated three blocks on either side of the city's railroad-bisected Main Street, making possible freer and easier movement of traffic, Police Chief J. R. Thomas notes.

Rocky Mount's business streets had long been choked by cars and trucks. With every parking space constantly occupied during the day, double parking was common. As a result, the movement of traffic, especially at intersections, was slow at best, and collisions involving property damage of graduated proportions were frequent. Flagrant parking violations were not

LEADING ALL OTHERS

...DUAL

the AUTOMATIC Parking Meter

IN a recent survey by an independent organization—Dual Automatic Parking Meters topped all others in installations.

There's a reason for this All-American preference:

Dual—*the original parking meter*—has earned its leadership through important improvements in engineering, construction and performance. The new streamlined design is attractive, weather-proof and tamper-proof—easy to install and operate—economical to service and maintain. *And every Dual has a meter mechanism manufactured by the makers of the famous Seth Thomas clocks.*

Duals not only pay for themselves—but also provide a long-term source of municipal revenue. Learn how Duals can serve your community profitably. Write for the informative free booklet—"Metered Parking—Today's Answer to Tomorrow's Traffic Control Problem", or call on our engineers for friendly cooperation.

THE DUAL PARKING METER COMPANY

A subsidiary of The Union Metal Manufacturing Co.

MILFORD BUILDING • CANTON 2, OHIO

When it comes to controlling parking you can do it better with DUALS

always punished because police officers available for the work in the traffic department were kept busy handling the flow of vehicles.

As a remedy for the city's traffic troubles, the Board of Aldermen decided on parking meters and completed arrangements with M. H. Rhodes, Inc., for the installation. The company agreed to absorb the cost of the meters and the installation and to accept one-half the receipts until full payment is made.

Contractors for the work were not available; so, the city installed the meters and received $3.80 per meter to drill holes in the sidewalk, place the meter standards, fill in with concrete, and affix the meter boxes on the standards. The company included additional equipment of two complete meters, a coin box for each of the 192 meters, and twelve timer units. The extra coin boxes permit revenue collection without opening the boxes until they are in the city clerk's office. Meter construction is such as to afford repairs and collections without the mechanic or collector being given access to the receipts.

At a charge of one cent for twelve minutes and five cents for an hour, the meters are collecting an estimated $40 a day, $20 of which goes to Rhodes and $20 to the city. On the 50-50 basis, the city expects to pay for its $58 meters within twelve to fifteen months.

In contrast with former years, the tobacco market opening in August did not bring the annual traffic tangle dreaded by local police and citizens alike. Rocky Mount's new meters are proving satisfactory not only to local and out-of-town motorists but also to the merchants and business men who are largely dependent upon automobile trade. City Manager L. B. Aycock lauds the meters for helping to clear the streets and for making parking space available. At public request, installations will be made in other business sections, city officials state.

Trolley Coach Operation On Three More Denver Lines

GOING forward with its modernization program, the Denver Tramway Corporation will convert three of its remaining street car lines to trolley coach operation. It is expected that the overhead will be completed and trolley coaches placed in operation on these lines, which total 33.3 round trip miles, before the end of 1947.

Fifty trolley coaches have been ordered to replace the present street cars; and it is estimated that, once in service on the three converted lines, they will transport approximately 16,000,000 revenue passengers annually.

Trolley coaches have been in operation in Denver for six years now. The original installation was made on June 2, 1940. Thirty-five trolley coaches replaced the street cars, and within a year riding increased 20% on one route and 33% on the other. Ten additional coaches were purchased in 1940, seven in 1941, ten in 1942, and five in 1945, making a total of sixty-seven now operating in Denver.

The Denver Tramway Corporation also operates 178 street cars and 112 motor buses over 142 and 193 round-trip miles, respectively. Although trolley coaches operated only 12.71% of the total vehicle hours and traveled but 11.85% of the vehicle miles in 1945, they carried 14.63% of the total passengers and returned 26.83% of the net earnings.

Two-Way Radio Aids Santa Monica Police

1. Transmitter-received equipment installed in City Hall. A 5-kw Onan plant provides emergency power. 2. Santa Monica's fleet of two-way radio-equipped motorcycles. 3. City Hall, showing superstructure which houses radio equipment. 4. Police dispatcher directing law-enforcement and fire-fighting squads by two-way radio. 5. Lieutenant of Police Ed Cavaness at radiophone in private car, talking with squad members on duty.

MODERN two-way short-wave radio equipment is being employed by Santa Monica police to ease the acute traffic problems and curb the transient law-evading elements in that Southern California city of 65,000. Quick action, made possible by police radio, facilitates the work of the department.

The central installation of the Santa Monica radio communication system is a specially designed transmitter-receiver combination situated in a superstructure on the roof of the city hall. Operating on the 33.5 megacycle band, the transmitter has an input rating of 100 watts, an output of 50 watts fed to a vertical antenna, and an effective range of 15 miles.

The Aireon short-wave equipment is operated from a central control room located in the police department on the ground floor of the city hall. Telephone switchboard and inter-office communication controls, as well as the radio controls, are built into a

Philadelphia REDUCES ACCIDENTS!

PRISMO LIFE-LINE USED ON CITY STREETS

Photo by: Philadelphia Inquirer; Courtesy of Chief Robert A. Mitchell, Bureau of Traffic & Safety, Philadelphia, Pa.

View showing Prismo traffic lanes on the Benjamin Franklin Parkway — one of the many Prismo-marked roads in Philadelphia.

- Along with thousands of other communities, the City of Philadelphia is cooperating with the current nation-wide safety program in combatting the appalling accident increases. To assist in this campaign, Prismo Life-Line—the modern reflective marking material—is being used extensively throughout the city in its modern safety program!

- For city marking, there are three Prismo reflective products available—Prismo standard Life-Line—for extraordinary durability (45 minute drying time)—Prismo Municipal Life-Line—a quick (15 minute) dry, durable reflective striping material—and for economical reflective signs, use the Prismo Sign Kit in your sign shop.

Choose:

Prismo Life-Line or Municipal Life-Line for reflective centerlining.

Write for Bulletin 461

The SPHERE of SAFETY

Prismo Sign Kits for reflectorizing your signs.

Write for Bulletin 244

PRISMO SAFETY CORPORATION

Municipal Division

HUNTINGDON, PENNSYLVANIA

single U-shaped unit, which puts them all within easy reach of a single dispatcher.

In case of failure of the regular source of mainline power supplying the installation, an Onan electric generating plant in the basement of the building provides 5,000 watts of 115-volt, 60-cycle, single-phase alternating current. The plant is driven by a 4-cylinder, water-cooled Onan gasoline engine of 14.5 hp.

Should failure occur, a Square-D line transfer relay cuts the branch circuits from the line and connects them to the standby plant which, in turn, is controlled by an Onan fully automatic panel. When not in use, the starting batteries for the electrically-cranked power unit are kept charged by a General Electric rectifier. When the standby plant operates, it generates a small auxiliary direct current supply for charging the batteries.

With Santa Monica's radio facilities, the dispatcher can keep in touch with the 43 police and fire department mobile units (motorcycles, cars, and trucks), each equipped with a two-way short-wave radio set. The battery-powered transmitter-receivers also permit immediate contact between any of the vehicles and close coordination of police or fire department squads.

Traffic Flow and Parking Facilities Sought by Grand Island, Nebr.

THE highways and railroads that make Grand Island, Nebr., a trading center with a population of 19,000 have posed a traffic problem which has been investigated by Frank N. McNett and Company and DeLeuw, Cather & Company.

In addition to such major projects as underpasses, relocation of highways, and a system of main thoroughfares, the report recommends one-way streets, transit improvement including a bus terminal, and off-street parking facilities.

In the matter of parking, a start had been made in 1942 with the installation of 436 Duncan meters. In the last two full years the meters grossed $28,093 and $32,563, respectively, with repair and maintenance costs of only $435 and $423. The report says, "While this method does tend to regulate curb use, it is only a tool of enforcement of a parking time limit and is not the final answer to the parking problem."

It is recommended that off-street parking be provided by private enterprise, merchants, and city-owned facilities. The alternative is that the city include in its ordinances a requirement that all new important commercial and industrial buildings provide off-street parking facilities for cars and for truck loading.

Santa Monica's Onan power plant.

Perimeter Parking Lot

BALTIMORE drivers can leave their cars in the Baltimore Transit Company's perimeter parking lot and ride the shuttle bus into the downtown area, thus avoiding traffic tangles in the business district.

A twenty-five cent ticket entitles drivers to all-day parking and bus transportation to and from the downtown district. One-way cash fare for nonparkers is five cents, and there are no transfers.

The buses operate on a five-minute headway between 7:30 and 9 a.m. and between 4 and 5:30 p.m. The headway is seven and one-half minutes from 9 a.m. to 4 p.m.

In operation since late August, the perimeter parking lot has found favor with both drivers and city officials. The Baltimore Community Council on Street Traffic has indorsed the idea as a step forward in easing traffic congestion in the downtown area and has urged the Commission on City Plan to select sites for additional lots.

Flint Road Machine Does Double Duty

A NEW road machine constructed by the department of traffic engineering in Flint, Mich., not only picks up nails, wire, and scrap materials from the streets but paints from four to five miles of straight reflectorized center lines per hour as well.

On the cut-down body of a ton-and-a-half Chevrolet paneled truck is a 100-amp. D.C. generator powered by a Ford V-8 engine. The generator activates the magnet which, attached to the front of the machine, is capable of lifting 1,000 pounds. The truck is also equipped to provide lighting in the case of accidents, fires, or drownings. A LeRoy 120-cubic-foot air compressor furnishes power for air hammers on sign or signal construction jobs and for the paint device.

A small vehicle attached to the left side of the truck by a flexible arm contains a spray head and glass bead dispenser for installing Prismo safety line paint. All controls are mounted within the cab, and a fifth wheel on the front of the truck is used for sighting along previously marked center lines.

Prior to the construction of this road machine, five men were required to put down center lines of Prismo paint at the rate of about ten to twelve gallons daily with the hand-operated machine. On the initial test the new machine, operated by two men, put down nine gallons of paint on approximately a mile and a half of pavement in three-quarters of an hour. With it, Flint traffic engineers expect to apply from five to ten times as much center lining, lane lining, and other traffic markings as in the past.

Condensed from "A New Paint Machine That Does Tricks," by Henry A. Barnes, *Traffic Engineering*, August, 1946.

One-Man Patrol Cars

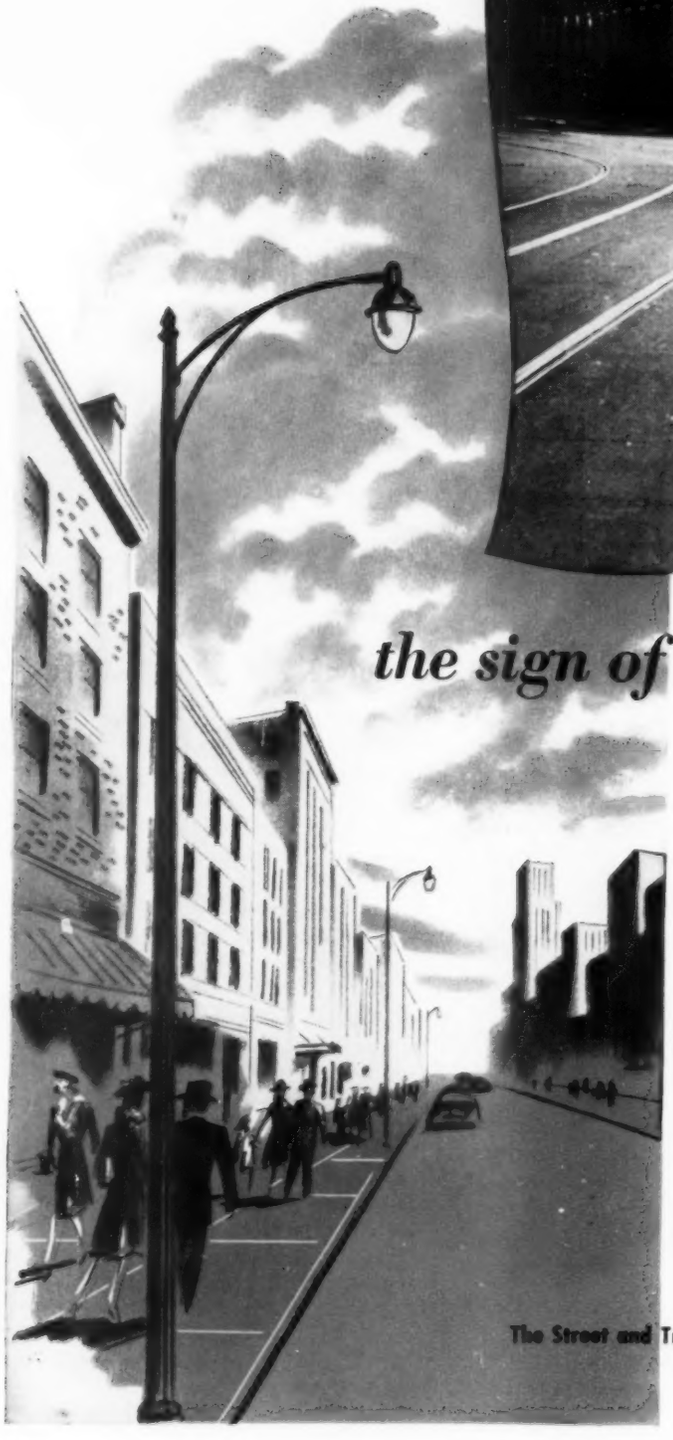
PHOENIX, Ariz., is now using one-man police patrol cars on one shift instead of two-man cars, the International City Managers' Association reports. The changeover is a phase of departmental reorganization.

The patrol cars are to be responsible for both crime suppression and regulation of traffic, thus freeing the traffic section for such specialized duties as enforcement of time-limit parking regulations, investigations of serious accidents, safety education, and traffic engineering.

The departmental reorganization provides for five functional divisions: uniform (patrol and traffic), detective, records, communications and jail, and juvenile and vice. Patrol and traffic divisions are now being combined, and the activities of the records, communications, and jail sections are being centralized.

Phoenix police are reorganizing on the basis of a survey conducted for the city by the Public Administration Service. A similar survey in New Orleans also recommended the use of one-man patrol cars there. Among the larger cities, Baltimore, Cincinnati, Cleveland, Indianapolis, Portland, Ore., Providence, Rochester, San Francisco, and Toledo all use one-man patrol cars.

GOOD STREET LIGHTING....



the sign of a good place to live

HARTFORD, CONNECTICUT is the largest and one of the busiest cities in a state where the night traffic fatality rate, on a mileage basis, is 10 times the day rate. Hartford, along with New Haven, Bridgeport and Waterbury, has 50 miles of improved street lighting. These 50 miles of well-lighted streets carry 40% of the total traffic of these cities. Since improved lighting was installed, night traffic accidents have been reduced 60% and night traffic fatalities 90% on these streets alone. *More important*—there was not a single night pedestrian fatality on these streets during 1944. The state highway commission reports that "The annual saving from reduced night accident costs is several times more than the added cost of the improved lighting." Is your community realizing all the good from good street lighting?

The Street and Traffic Safety Lighting Bureau, 155 East 44th St., New York 17, N. Y.

Outdoor Lighting

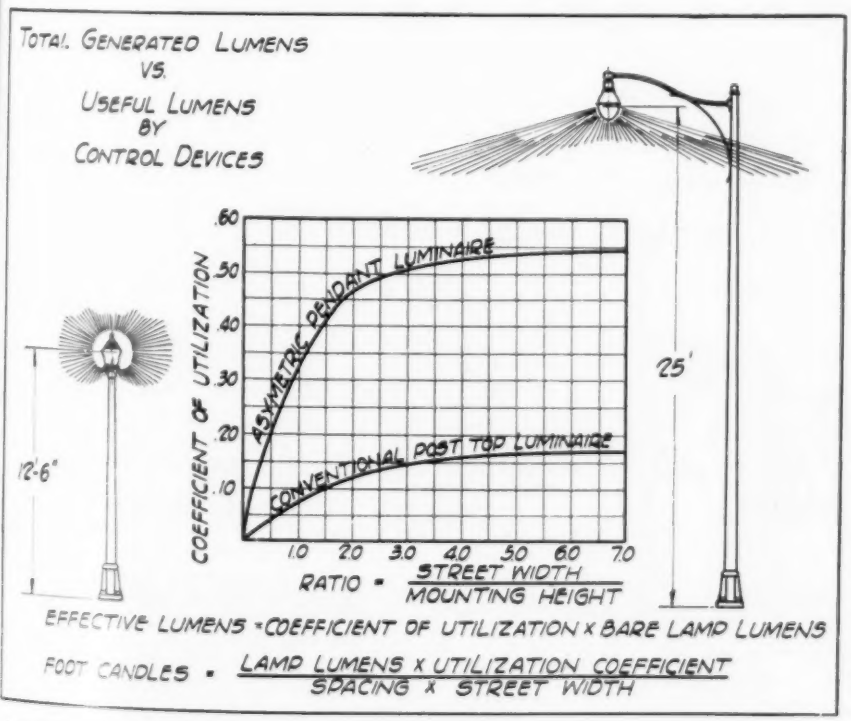
We Could Save 6,000 Lives

By E. B. KARNS, Manager, Street and Aviation Lighting
Westinghouse Electric Corporation, Cleveland, Ohio

IF THE DAY AND NIGHT traffic accident incidence can be equalized as it is on scientifically lighted thoroughfares in cities having traffic safety lighting, more than 6,000 lives at the present night fatality rate, which is steadily rising, will be saved each year.

Authorities predict that in 10 years 40,000,000 vehicles will be traveling our streets and highways. In 1941 there were 34,000,000 — which accounted for 40,000 fatalities, 23,000 of them at night. What will be the death toll with 6,000,000 additional vehicles in operation?

Good street and highway lighting can save lives. In Hartford 32 persons were killed before modern lighting was installed, whereas 3½ years after, only one night death was recorded. Daytime fatalities were rising meanwhile. Night accident experience at 25 relighted intersections in Los Angeles showed a decrease of 78% in collisions, 79% in injuries, and 92% in fatalities the year following the installation. Detroit before installing modern lighting had seven night fatalities to each day fatality, but since, that ratio has dropped to 1.4 to 1. On New Jersey highways in 16 counties, the 245 deaths of 1937 before lighting were decreased to 154 in 1938 after lighting. One year before Bay Shore Boulevard, San Francisco, was lighted, 50 persons were killed during the day and 93 at night. One year after lighting, day fatalities totaled 49, while night casualties had decreased to 54.



The coefficient of utilization (the useful light output) for an asymmetric pendant luminaire is compared with that of a conventional post-top luminaire in this diagram.

The economic waste from automobile accidents in the United States exceeds $1,250,000,000 annually. This is figured as $12 per capita, while the annual per capita cost of street lighting in America averages only $1.20. The cost of traffic accidents, then, becomes the largest item in street maintenance. The public burden is increased in the matter of hospitalization, charities, and higher cost of various types of casualty insurance.

It is estimated that adequate visibility for night driving safety can be provided at an average annual expenditure of approximately $2.10 to $2.50 per capita. From 1911 to 1931 street lighting expenditures rose only 60%, while street traffic increased 5,000%. Since 1931 lighting expenditures have actually decreased 17.5%.

The old luminaire was mounted low along the curb. The distribution of light was uncontrolled and spilled in all directions, with very little reflected toward the driver; consequently, the road surface was black when viewed from the driver's seat.

The new luminaires are designed to redirect the upward component of light and deliver it to the pavement at such low angles that surface reflections are kept within the normal vision of the automobile driver, thus rendering the pavement bright when viewed from the driver's seat. The major portion of the light is directed out at an angle of 70 to 78 degrees from

the RIGHT SLANT

for good street lighting

UNION METAL's latest all-steel street lighting standard brings a new development to good street lighting practice. This is the single bend bracket with a 45° slant which makes wiring easier, provides proper light distribution, and results in a more attractive appearance.

Designed to meet every requirement of good street lighting, these modern streamlined poles come in economical standardized heights to reach nominal light centers of 20, 25, 30, 35 and 40 feet. Choice of brackets in 4, 6 or 8 foot lengths with supporting scrolls, or 10, 12, 15 and 18 foot mast arms with top, side sway bracing.

Fabricated steel transformer bases are available wherever required, adding 20 inches to the overall height. Two attractive shaft designs—octaflute or plain round. For complete information write The Union Metal Manufacturing Company, Canton 5, Ohio.

You couldn't buy a better product to save your life

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IN THE DESIGN AND
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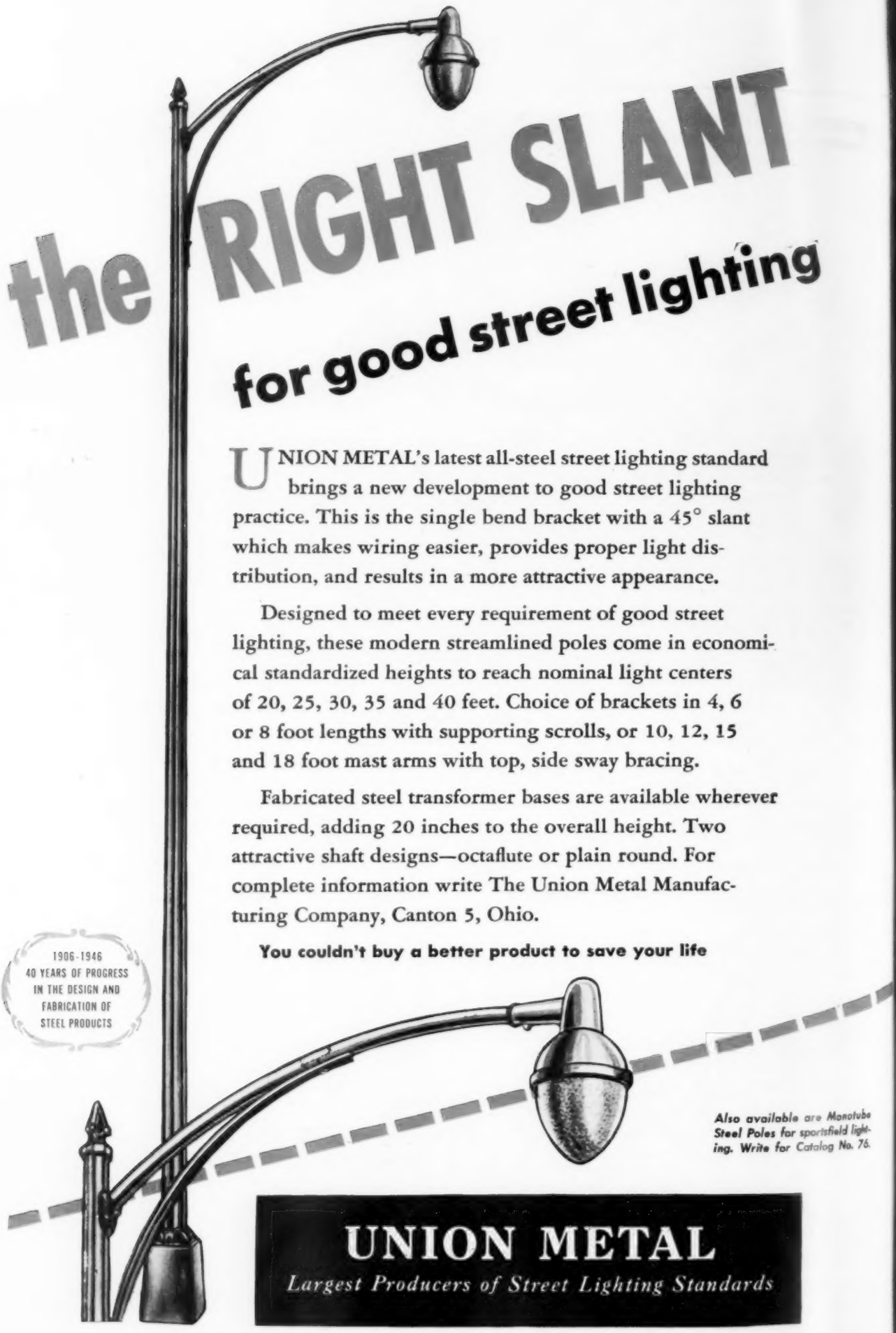
STEEL PRODUCTS



Also available are Monotube Steel Poles for sportsfield lighting. Write for Catalog No. 76.

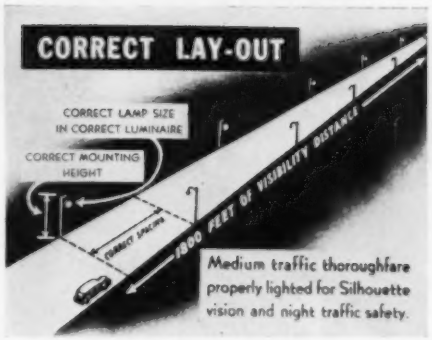
UNION METAL

Largest Producers of Street Lighting Standards

vertical. By suspending the units well out over the roadway, a bright pavement surface can be produced in front of the car on a specular surface. This type of luminaire will produce two to three times the intensity on the street and many times the visibility of the old unit.

Street lighting effectiveness is no longer judged by the candlepower of the light source or by the illumination produced. It is the end-product of visibility that counts.

Traffic safety lighting is the installation of the correct lamp size in the correct luminaire at the correct mounting height and correct spacing. It must not be haphazardly applied but must be accurately laid out to obtain favorable results. It is designed to safeguard the lives and welfare of people after dark. While better street lighting is primarily to reduce traffic accidents, it also discourages delinquency, vandalism, and other crimes which flourish at night.


CORRECT LAY-OUT
CORRECT LAMP SIZE IN CORRECT LUMINAIRE
CORRECT MOUNTING HEIGHT
CORRECT SPACING
1000 FEET OF VISIBILITY DISTANCE
Medium traffic thoroughfare properly lighted for Silhouette vision and night traffic safety.

Correct lay-out for night traffic safety on a thoroughfare with medium traffic.

Because illumination of streets and highways, whether good or bad, has effect on every individual in the community, traffic safety lighting should be made the first concern of public authorities. Without adequate visibility at night, city-wide safety activities, traffic regulations, automobile safety features become ineffective. Safety lighting must be regarded as an essential public service—a protective necessity which guarantees the public welfare.

Old-fashioned lighting fixtures on Division Street, Spokane, despite the glare, cast little illumination on wet pavement.

Modern safety lighting on the same street cut accidents 70% and reduced Spokane's night traffic fatalities to zero.

Spokane Relights for Traffic Safety

By ALBERT GRUBER
General Industrial Engineer
Washington Water Power Company

TEN PEDESTRIAN injuries and five deaths in the four-year period prior to November, 1939, caused officials of Spokane, Wash., to install ten modern lighting fixtures in the dangerous Division Street area between Nora and Knox Streets. The fixtures, each containing one 500-watt lamp, were placed along the east curbline of the street 125 feet apart. In the six years since the traffic safety lighting experiment, only two night accidents have been reported from the former death trap, and both resulted in only minor injury to pedestrians.

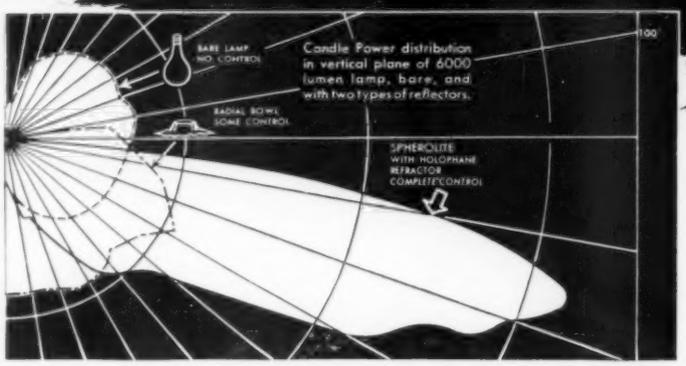
The war prevented extension of the lighting program, but in 1944 a plan for a post-war lighting project was developed by The Washington Water Power Company in cooperation with the City Plan Commission. This plan proposes the complete relighting of the city's streets, engineered and installed to conform with modern lighting practices as recommended in the street lighting code prepared by the Illuminating Engineering Society. Included in this proposal was an offer to the city of a street lighting rate reduction of approximately 27%, effective upon acceptance of the plan. The plan was approved by the City Council late in 1945, and an order was placed for 377 lights to be installed on three of the principal arterial streets, 1500 lights to replace the older lamps in use in the residential areas, and 500 lamps to be installed in new locations in the residential areas. The complete plan provides for approximately 800 traffic safety lights, 950 residential traffic lights, and 3750 residential lights. Delayed shipments prevented installation until September of this year.

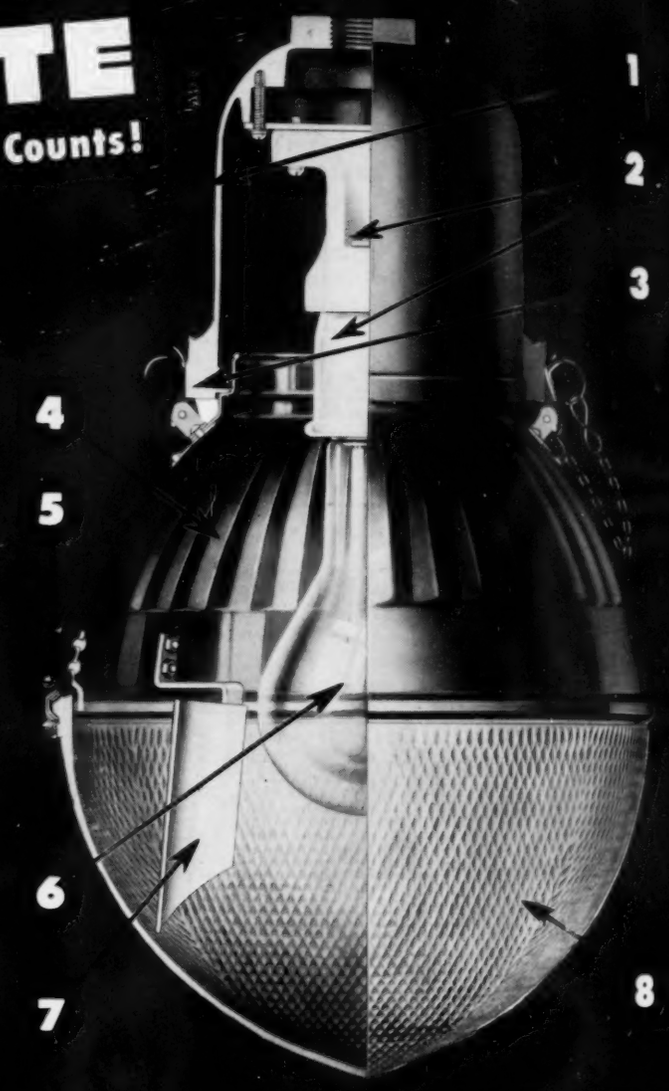
One of the new directed-light luminaires which will be installed in Spokane, Wash.

The city-wide lighting plan, which will be put into effect over an extended period at a cost of approximately $600,000, divides Spokane into traffic classifications as determined from traffic flow studies previously made by the City Plan Commission. The heavy traffic classification, which includes the central business area and main-traveled streets, is based on the passage of 9,600 to 13,000 cars in a twelve-hour period, with 1,200 cars passing in one night peak hour. Such areas will have fixtures placed 90 to 100 feet apart

L-M SPHEROLITE

Gives Greater Visibility Where It Counts!


BARE LAMP NO CONTROL
Candle Power distribution in vertical plane of 6000 lumen lamp, bare, and with two types of reflectors.
100
RADIAL BOWL SOME CONTROL
SPHEROLITE WITH HOLOPHANE REFRACTOR COMPLETE CONTROL



-M Spherolite makes the best use of all the light, because its cientific design controls the light in both horizontal and vertical lanes. Spherolite distributes the light uniformly over a wide area nstead of wasting it beneath the luminaire or above the horizontal.

'he chart above shows how the combination of the Alzak alumium reflector and the Holophane refractor "aims" the light in the esired direction. If an asymmetric light pattern is required, the attern of light can be redirected laterally to give increased ntensity where it is desired.

sk about L-M Illuminating Engineering Service . . . Line laterial Company's staff of experienced, well-trained lighting engieers will suggest and plan street lighting systems for *you*. These ien will draft complete, detailed plans for any street lighting project, hether it be an integrated system for an entire town, or a special nstallation to meet unusual requirements. This valuable engineering ervice is yours without cost or obligation. The L-M field engineer n your vicinity will be glad to make the arrangements if you wish to ave a plan submitted for your consideration.

-M also offers you a series of twelve technical bulletins on Street ighting Fundamentals. One or all of these bulletins are available to ou for the asking. A complete list of titles is given below.

ontact your L-M field engineer today, or write direct to Line laterial Company, Milwaukee 1, Wisconsin, for further details on ie Spherolite street-lighting method.

Topics of Street Lighting Fundamentals

Development of Modern Street Lighting

hy Prismatic Reflectors Offer reater Efficiency

ontrolled Light Patterns and heir Uses

eading Isolux Charts

eading Utilization Efficiency harts

lection of Mounting Height nd Spacing

Transverse Locations of Luminaires

Recommended Illumination for Safety

Street Lighting Installation Practice

Control of Multiple and Series Systems in Outdoor Illuminations

Use of Control Equipment for Special Lighting Applications

Lighting Requirements for Wide Streets and Boulevards

Cost-Cutting Features of Spherolite

1. All-metal Hood: die-cast aluminum; provides ample space for wiring.

2. Receptacle and Socket: wet process porcelain; rugged, silver-plated contacts and current-carrying parts.

3. Toggle Latch: fastens reflector firmly to hood.

4. Reflector: Alzak Aluminum, scientifically fluted to insure accurate light control.

5. V-band Holder: one of three types of holders available. Provides permanent seal between glassware and reflector, but 2 screws can be loosened to replace glassware in the field.

6. Light Source: concealed to reduce disturbing, dangerous glare.

7. Deflector: specular aluminum, used in connection with asymmetric light distribution.

8. Holophane Refractor: lateral one-piece, self-cleaning L-M diamond mesh pattern.

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STREET LIGHTING EQUIPMENT

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware •

with lamps of 10,000 to 16,000 lumens.

Medium heavy traffic streets carrying 7,500 to 9,600 cars in twelve hours, with a night peak hour of 938 to 1,200 cars, will have 6,000 to 10,000-lumen lamps staggered from 100 to 125 feet apart.

Residential traffic streets, including those residential streets which channel traffic into arterials, will be equipped with 4,000-lumen lamps at intersections and at the middle of each block.

The program provides for 2,500-lumen lamps at each intersection at which there are dwellings adjacent to the streets. In special areas, such as double-length blocks, larger lamps and additional units will be supplied.

The central business district, now served by magnetite arc lamps in ornamental fixtures, will be newly equipped with mercury vapor lamps. The present fixtures will be rebuilt, and raised to a height of 25 to 27 feet having taxpayers the cost of entirely new standards.

All fixtures in other traffic areas will be placed on wood poles: either existing power-line or telephone poles or new poles. Property owners who want metal poles may have them for additional cost. Modern light-directing luminaires and tubular steel brackets of mastarms will be used. The Washington Water Power Company is making the installation.

The Mercury Vapor Lamp

THE mercury vapor lamp is a relatively new, highly efficient light source, particularly adaptable to street lighting service where especially high levels of illumination are required.

The characteristic color of the light from the mercury vapor lamp is bluish-white with a tinge of green.

It is generally conceded that, given equal illumination values, the color of the source has no bearing on the ability to see or on the ease of seeing. The bluish-white color of the mercury vapor lamp usually detracts from the brilliancy of colors predominately in the red end of the color spectrum, but it enhances the beauty and richness of colors predominately in the blue end of the spectrum.

Method of Operation

To operate this lamp on the standard electrical system (whether multiple or series) it is necessary to use a ballast, or transformer, connected in the circuit for each mercury vapor lamp. The transformer provides the necessary electrical characteristics essential to start and operate the vapor discharge lamp.

There are at present only these three lamps specifically adaptable to street lighting service: 250-watt, 10,000-lumen, 3,000-hour lamp; 400-watt, 16,000-lumen, 5,000-hour lamp; 400-watt, 20,000-lumen, 3,000-hour lamp. In each case, an additional 10% of the rated lamp wattage should be added for the transformer.

This lamp is from two to two and one-half times as efficient as the incandescent lamp commonly used for street lighting. Mercury vapor lamps will be equally satisfactory when used alone or when used in conjunction with incandescent lamps. In traffic safety lighting, where relatively high levels of illumination are desired, the mercury vapor lamp offers many advantages.

Most street lighting rates are based on a predetermined fixed charge (which includes depreciation and taxes) plus maintenance charge (which includes maintenance and lamp replacements, etc.) plus energy charge. The fixed charges over the expected life of a street lighting installation do not vary greatly between systems. The big difference is in the kilowatt-hours required to produce a satisfactory illumination value.

Typical Street Lighting Analysis

10 BLOCKS

Each Study Designed to Produce an Average of 1 Lumen Per Square Foot of Street

Factors	6,000 Lumen Incandescent	10,000 Lumen Incandescent	16,000 Lumen Mercury Vapor
Street Width	50′	50′	50′
Mounting Height	25′	25′	25′
Linear Spacing	76′ Opp.	64′ Stag.	95′ Stag.
Total Number Units	120	70	50
Total Connected Load	35 kw	34 kw	22 kw
Rated Avg. Lamp Life	2000 hrs	2000 hrs	5000 hrs
Annual Power Cost	$1483.00	$1358.00	$ 880.00
Annual Maintenance	948.00	602.00	386.00
Annual Fixed Charges	3035.00	1926.00	1618.00
Total Annual Cost of Lighting	$5466.00	$3886.00	$2884.00

For the purpose of comparison, a mythical problem was assumed, consisting of one mile of typical traffic street. The illumination was calculated to provide an average illumination value of one lumen (footcandle) per square foot of road surface.

The table at the left, using three different light sources, shows the breakdown of the several factors that, when combined, express the annual cost of lighting.

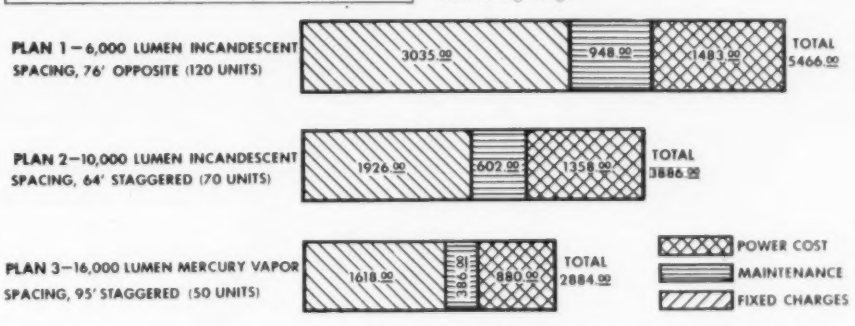

Fig. 58

Street Lighting Layout Plan

Each Designed to Produce the Same Level of Illumination

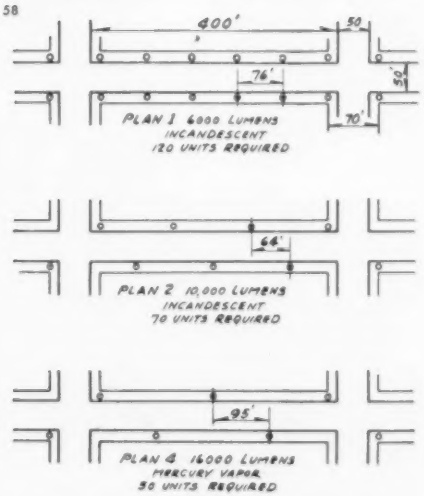

Fig. 59

Mercury vapor lamp performance compared with that of incandescent lamps. (The material for this lighting analysis chart was supplied by the Westinghouse Electric Corporation.)

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It is important that the ends of your runways be clearly marked with sets of range lights that codify the runways numerically. Crouse-Hinds disconnecting boundary and range lights are sturdy units built for this service. The disconnecting feature was pioneered by Crouse-Hinds Company who manufacture a complete line of lighting and control equipment to meet the requirements of any airport . . . large or small. Write for complete information.

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United Nations Headquarters—Where?

(*Continued from page 5*)

generally accepted that some delegates will suggest moving somewhere else, which means that New York and now San Francisco are, after Westchester County, leading contenders for the site.

The three-way offer of a future site in San Francisco was announced by Robert W. Kenny, Attorney General of California; Walter Haas, former head of the San Francisco Chamber of Commerce, and Belford Brown, San Francisco banker.

Possible Sites in Westchester County

In preparing its report to the Headquarters Commission, the Planning Staff had no authority to study anything outside of the Westchester-Fairfield area, to which the Commission's search was confined by the General Assembly's resolution of February 14, 1946.

The report presents in detail five possible sites—all in Westchester County—indicated by the numbers 2, 5, 10, 20, and 40 on the map shown on page 5. These numbers correspond roughly to the areas in square miles which the Commission was required to select. Site 2 is in the town of Harrison, near White Plains; Site 5 is an extension of Site 2 in the town of Harrison; Site 10 is in the town of Cortlandt, east of Peekskill; Site 20 is in Cortlandt and Yorktown, northeast of Site 10; Site 40 is in the towns of Yorktown and Somers, east of Site 20.

Pointing out that to acquire and develop a Headquarters for the United Nations may require a very large outlay in dollars, the Commission suggests various lines of exploration to minimize this.

Three Alternatives as to Size

To determine the extent of responsibility for finance and management of the Headquarters is a first essential and here the Commission presents the problem of selection in terms of three alternatives, namely:

(a) A relatively small site (about 2 square miles) estimated to accommodate only the official buildings and buildings for specialized agencies and delegations. As most of the necessary facilities and housing requirements would have to be provided by private enterprise in the surrounding neighborhood, this would reduce capital expenditure and the burdens of management.

(b) A medium site (about 11.3 square miles) estimated to accommodate the official buildings as above plus housing for a proportion of the personnel, delegates, and related service population. This decreases dependence on private enterprise in the neighborhood but increases correspondingly the burden of capital expenditure and management.

(c) A relatively large site (about 17.5 square miles) which would accommodate all official buildings and all required housing, including that for the total service population. This would throw virtually the whole burden of finance and management on the United Nations, ensuring a corresponding degree of independence.

Taxation and Land Acquisition

In regard to local taxation, the Commission points out that a rigid adherence to the principle that the United Nations will pay only such taxes as represent the cost of public utilities would result in hardship to the towns and districts affected. It is therefore suggested that in addition to payment for such services the United Nations should consider making a grant towards an equitable portion of the present indebtedness of towns and also that a graduated payment in lieu of taxes should be made to assist local governments to meet their general administration expenses over the substantial period that will be required for them to adjust these expenses to changed conditions.

These and similar matters can be dealt with, says the Headquarters Commission, only when the General Assembly, after full consideration of the facts, has adopted guiding principles, or made decisions. The Commission was specifically prohibited from making any financial commitment on behalf of the United Nations.

The Commission points out that the United Nations has no power to acquire land within the territory of any of its member nations except in accordance with the laws of the nation involved. The Commission considers that in the transfer of title to the land required for a site, together with some degree of administrative jurisdiction, it would be desirable if appropriate action were taken to establish its title and the rights necessary for an international body of this character by both the Congress of the United States and the legislature of the state in which the land may lie (in this instance New York).

The Commission considers that the United Nations should purchase from the United States the total amount of land required for its headquarters and does not advise the creation of a zone in which land will be under an option of acquisition by the United States for the United Nations for an indefinite period.

Headquarters Planning Staff of the United Nations

The Headquarters Planning Staff of the United Nations comprises the following personnel:

Howard K. Menhinick (Director); Arthur C. Comey, F. Dodd McHugh, Frederick P. Clark, and Arthur J. Rabuck, city planners; Roland Wank, architect; Wilbur H. Simonson, landscape architect; Van Court Hare, civil engineer; G. F. Van Dissel, radio engineer; Dr. Charles P. Berkey, geologist; Dr. Charles C. Colby, geographer; W. A. Roseborough, lawyer; Amos G. Hewitt, real estate consultant; A. S. Bomberger, C. R. Dobson, and M. E. Ekstrand, real estate appraisers.

Glenn E. Bennett, member of the Secretariat, is administrative secretary to the Planning Staff and Headquarters Commission.

Score Your Asphalt Plant

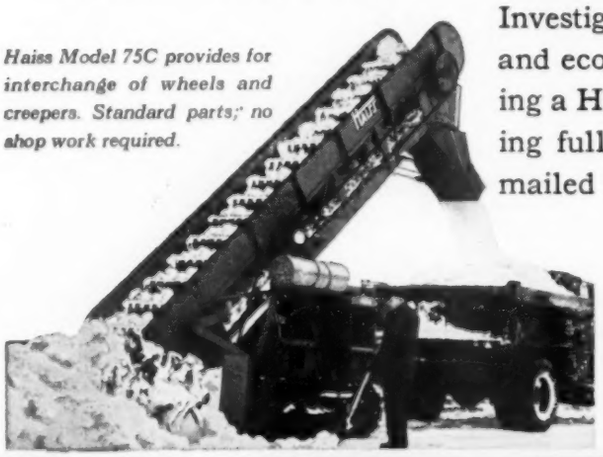
(*Continued from page 110*)

ting and shoving. The greater porosity of some parts of an E plant pavement would mean a shorter life and higher maintenance cost after a few years, but it would at least be known and expected in advance. When using this classification for design, it will be necessary to correct for any deductions due to temperatures, as this would have little or no effect on density.

An engineer may specify that only plants above a certain grade be permitted to bid on first-class construction, or it could be required that a maintenance bond be furnished for varying lengths of time as follows:

Class A plants	none
Class B plants	1 year
Class C plants	2 years
Class D plants	3 years
Class E plants	5 years
Class F plants	8 years

Fix your eyes on a Haiss as it digs in to break-up wet, dry or frozen snow...loading it at better than 10-yards a minute – and you'll see in no time what a difference engineering "know-how" and rugged construction make in a Snow Loader. Built of only the best in alloy steels from simple, functional design . . . with a Haiss-made oil-bath enclosed transmission – and powered by a motor ready to "take it" – this Haiss Snow Loader is an all-around bargain on the job. Investigate now the efficiency and economy gained by owning a Haiss. Catalogs containing full information will be mailed promptly on request.



Haiss Model 75C provides for interchange of wheels and creepers. Standard parts; no shop work required.

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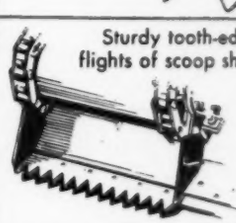
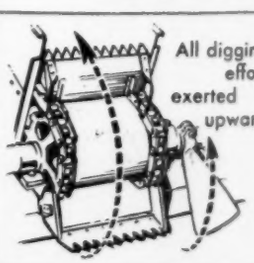
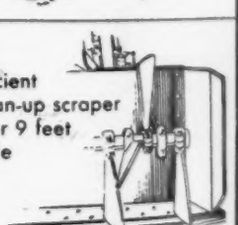


Sturdy tooth-edged flights of scoop shape



All digging effort exerted upward



Efficient clean-up scraper over 9 feet wide

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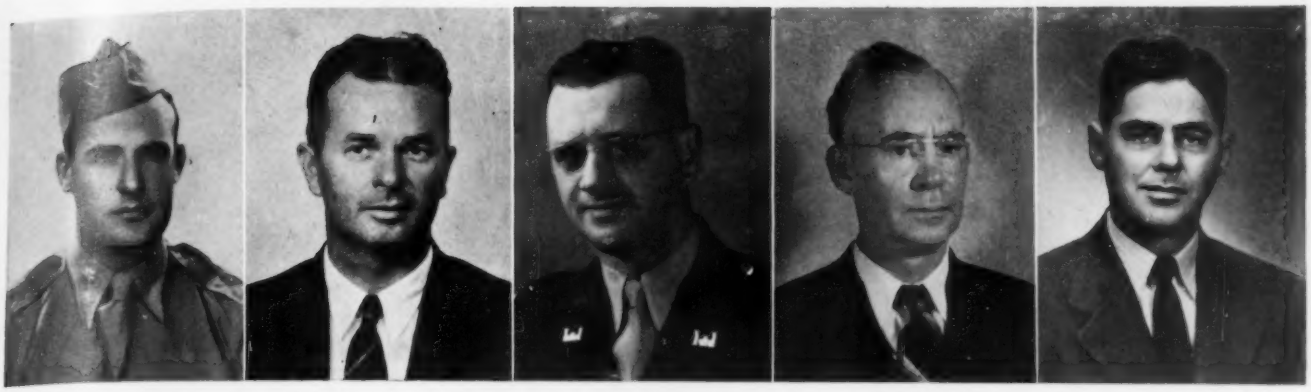

William E. Johnston
McAlester, Okla.

Colin F. Churchill
Roxboro, N. C.

C. C. Congdon
Berkley, Mich.

Robert Hutchison
Shawnee, Okla.

Francis A. Vaughn
College Station, Texas

Recent City Manager Appointments

The portraits on this page are of city managers whose appointments have been announced in preceding issues.

CECIL A. BISSONETTE, manager of Ludlow, Vt., since 1943, became manager of Bellows Falls and Rockingham, Vermont, on November 1.

F. R. BUECHNER, city manager of Grand Ledge, Mich., 1923-24, Gladstone, Mich., 1924-35, Piqua, Ohio, 1935-41, and Superior, Wis., since 1941, became manager of Hamilton, Ohio, on October 17.

J. B. EARLY has succeeded J. W. Lewis as city manager of Lufkin, Texas.

MAJOR GENERAL JAMES L. FRINK was appointed city manager of Greensboro, N. C., effective October 1.

WILLIAM E. HANSEN, city manager of Monterey, Calif., since July 1, 1944, was appointed first city manager of Ada, Okla., on October 15.

SAM HARLAN, a local attorney, was appointed city manager of Mangum, Okla., on October 4.

C. A. HARRELL, city manager, Portsmouth, Ohio, from 1930 to 1932, Binghamton, N. Y., 1932-37, and Schenectady, N. Y., since 1937, has been appointed city manager of Norfolk, Va. H. H. George, III, who has been acting manager since the first of the year, will resume his former duties as director of public works.

A. F. HAWKES is now manager of Chester, Vt.

J. C. MUSSER, former superintendent of utilties at Eldorado Springs, O., has been appointed city manager of Sterling, Kans.

CAPTAIN ROBERT L. PRICE, just released from the Corps of Engineers and formerly assistant city engineer of Battle Creek, Mich., has been appointed borough manager of Blairsville, Pa., He succeeds Ralph M. Wilson.

ELMER W. PRINCE, on leave for military service since April 1942, has returned to his former post as city manager of Morgantown, W. Va. J. E. Snyder carried on during his absence.

CLETUS R. ALLEN, director of recreation of Daytona Beach, Fla., has been appointed city manager of Winter Haven, Fla., succeeding William R. Galt.

CLARENCE E. RIDLEY
Executive Director
International City Managers' Association
Chicago, Ill.

Highways and Parking

(Continued from page 123)

place emphasis on urban area highways and streets as never before. The federal government is contributing $500,000,000 per year for the first three postwar years. This money must be matched locally—so it can be seen that the program now under way is enormous. $125,000,000 is earmarked out of each annual appropriation for spending on principal city arteries composing extension of the federal-aid highway systems in urban areas of 5,000 people or more. In addition, state highway departments also may spend on the urban routes portions of the $225,000,000 set up for the regular federal-aid system.

No federal money, however, is forthcoming for provision of parking facilities. This was judged by Congress to be strictly a local responsibility. So, unless there is to be extensive decentralization and loss of property values, it behooves holders of investments in downtown areas to take immediate steps to provide for parking.

By state and municipal action much can still be done in the way of adoption of model traffic ordinances, uniform vehicle codes, more scientific use of traffic signs, and making more stringent the licensing of drivers.

James Hughes
Farmville, Va.

James R. Pollack
Marquette, Mich.

H. A. Yancey
Charlotte, N. C.

Edw. W. Meisenhelder III
Fernandina, Fla.

Raymond Sharp
Duncan, Okla.

IT'S ALWAYS SAFE TO FOLLOW THE LEADER

Indianapolis, Ind., joins the long list of cities that have found Mark-Time Parking Meters best. Indianapolis appointed three independent engineers to select the best meter.

MARK-TIME always wins the toughest bona fide tests such as:

Flint
Newark
Passaic
Paterson
Summit
Syracuse

207 cities have chosen the NEW MARK-TIME PERFECTION parking meter since V-J Day—a good indication.

51 cities have already repeated buying additional PERFECTIONS—a good proof.

28 cities replace old meters with simpler Mark-Time meters.

M. H. Rhodes, Inc., Hartford 6, Conn.

The 1000% Greater Visibility, all red, "setting sun," time dial is 100% faster to patrol, and a much greater convenience to the public.

Municipal Law Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS, Washington, D. C.
Charles S. Rhyne, Executive Director

Airports—Condemnation of Leased Property—Consideration of Lessee's Interests

In condemnation for enlarging and extending limits of municipally-owned airport, held that if land condemned is encumbered with lease or other conflicting claims, the condemner is liable, not only for reasonable market value of land taken, but also for reasonable market value of other conflicting claims as a whole, and the elements that go to make up value of leasehold estate of land were the kind and character of realty on which lease was attached, its location and accessibility to public, the terms of lease contracts, adaptability of leased premises for purposes for which lease was given, and profits or loss in operation of business on leased premises. *Reeves* v. *City of Dallas*, 195 S. W. (2d) 575 (Tex. Civ. App., May 10, 1946). *Reh. den.* June 7, 1946.

Arrests—Injunction to Restrain as Unlawful Interference with Business

In suit for injunction against unlawful interference with conduct of plaintiff's business, held that allegations of bill that plaintiff was repeatedly arrested by police officers on false charges of violating liquor laws were not sufficiently clear and positive to warrant injunction against further arrests, where bill failed to disclose that arresting officers did not act in good faith, and in absence of reasonably well-grounded probability that same course of conduct will continue in future. *City of Jacksonville* v. *Wilson*, 27 So. (2d) 108 (Fla., Aug. 2, 1946).

Assessments—Joint Owners—Use of Term "Et Als"——Violation of Due Process Clause

In action to determine whether taxes reported delinquent constituted cloud on title to lots, held that statute authorizing assessment of jointly owned land in the name of one joint owner "and others" is not violative of the due process clauses of federal and Virginia constitutions. *City of Norfolk* v. *Stephenson*, 38 S. E. (2d) 570 (Va., June 10, 1946).

Claims—Settlement of Before Suit—Examination by City Comptroller

Where answer in action against city set forth facts from which it could be found that plaintiff failed to appear for examination by city comptroller in accordance with stipulation providing that no suit could be brought until after expiration of time within which comptroller could settle or adjust the claim and that right to examine had not been waived by city, held that answer was sufficient in law to state a defense. *Angelo* v. *City of New York*, 63 N. Y. S. (2d) 243 (N. Y. App. Term, Feb. 28, 1946).

Contracts—Construction of Market Building—Liability of City for Breach

Where city was liable for difference between contract price of construction of city market building and reasonable market value of land, building, and equipment at time of breach, held that city was not entitled to exclusion of value of equipment, materials, and supplies because contractor had benefit of use of such property from date when market opened to date when contract was repudiated; that city was not entitled to offset against purchase price the commission agreed to be paid because contractor conducted business for eleven months prior to tender and thus had full benefit of leases; that city was not entitled to exclusion of taxes from purchase price on ground of delay in tendering the market to city where delay in tender was waived by city; and that inclusion of amount of assessments and prepaid insurance expended by corporation was proper. *Public Market Co. of Portland* v. *City of Portland*, 170 Pac. (2d) 586 (Ore., June 25, 1946).

Eminent Domain—Power to Discontinue Proceedings and Purchase Property

In action to restrain purchase by defendant of hotel property, held that pendency of proceeding by Board of Education to condemn hotel property in which tenants of hotel appeared and denied existence of public necessity for taking property did not preclude board from purchasing property at private sale as the board is a state agency clothed with power of eminent domain and as such may discontinue condemnation proceedings any time before confirmation of verdict of jury. *Hooper* v. *Board of Education of City of Detroit*, 23 N. W. (2d) 692 (Mich., June 28, 1946).

Franchises—Apprehension of Injury as Basis for Enjoining Grant of

In action to enjoin city from granting certain franchises and leasing certain city property, held that petition was insufficient to present cause for injunctive relief, where petition was based on mere apprehension that injury would occur with nothing to show that plaintiff had been or would in fact be injured. *Wallace* v. *City of Atlanta*, 38 S. E. (2d) 596) (Ga., June 4, 1946).

Hospitals—Operation of as Governmental Function—Torts of Employes

In action to recover for injuries sustained by plaintiff while a patient in Minneapolis General Hospital, on ground that orderly employed in hospital by city committed an unjustifiable assault, held that city was performing a governmental function and was therefore not liable for injuries to patient. *Gillies* v. *City of Minneapolis*, 66 F. Supp. 467 (U. S. D. C., Minn., June 17, 1946).

Insurance—Payment of Privilege Tax by Nonresident Companies

In action to recover premium and privilege taxes paid under protest, held that statute requiring foreign insurance company to pay annual privilege or premium tax equal to 2¼% of gross premiums received from contracts or policies written or covering risks in the state is not unconstitutional as burdening interstate commerce, even though local companies pay a tax of only one-half that amount. *Prudential Ins. Co. of America* v. *Barnett*, 27 So. (2d) 60 (Miss., June 10, 1946).

Lockers—License Tax on—Burden on Interstate Commerce

City ordinance imposing license tax on every person operating any place wherein space is rented for storage of clothing or other personal property was not invalid as imposing illegal burden on interstate commerce in absence of allegation or proof that corporation on which tax was imposed with respect to maintenance of coin-operated lock boxes for public use was engaged in interstate commerce or that the lock boxes were actually or closely related to movement of such commerce. *American Locker Co.*, v. *City of Long Beach*, 170 Pac. (2d) 1005 (Cal. App., July 9, 1946).

Liquor—Limiting Number of Stores—Abuse of Discretion

Where ordinance limited to five the number of retail intoxicating liquor stores which might be maintained within boundaries of town, held that refusal to increase number of stores, permitted because population had increased from 10,000 to 12,500 since ordinance was passed, was not abuse of discretion. *State ex rel Veal* v. *Mayor and Aldermen of Dyersburg*, 195 S. W. (2d) 11 (Tenn., June 1, 1946).

Occupation Taxes—Clubs Serving Intoxicating Liquor Not Subject to

In action to collect occupation tax on persons engaged in business of serving intoxicating liquors, held that fraternal club or lodge which was a non-profit corporation and was not being conductd for livelihood or profit was not engaged in "business" and hence was not subject to tax imposed by city ordinance on persons engaged in business of operating clubs, night clubs, and service establishments in which liquor is served under state license. *City of Coos Bay* v. *Aerie No. 538 of Fraternal Order of Eagles*, 170 Pac. (2d) 389 (Ore., June 11, 1946).

Parking Meters—Receipts from Exceeding Costs—Indication of Parking Time

In action to correct alleged abuses and violations of law in connection with parking meters installed in certain sections by defendant city, held that evidence failed to establish violations of laws in that receipts from meters were greatly in excess of costs for which such receipts could be lawfully expended under ordinance permitting use of money received from parking meters only for general traffic regulations in the areas in which meters were installed or that meters were calculated to deceive public in that they did not correctly indicate the parking time which will be allowed for particular payments. *De Aryan* v. *City of San Diego*, 170 Pac. (2d) 482 (Cal. App., July 9, 1046).

Sidewalks—Snow Removal—Liability of Landowner for Injury Caused by

Where landowner cleared snow from steps and deposited it in pile away from sidewalk and did nothing to confine water into definite channel or to accelerate its flow to public way, held that mere flow of water from melted snow and formation of ice on sidewalk did not show negligence of landowner and owner was not liable for injuries sustained by pedestrian who fell on ice. *Cooper* v. *Braver, Healey & Co.*, 67 N. E. (2d) 657 (Mass., July 8, 1946).

Workmen's Compensation—Receipt of Pension as Waiver to

In petition for writ of mandate directing defendant to grant petitioner a pension, held that provision in city charter of Long Beach that pensions therein provided for were intended to be in lieu of workmen's compensation and that any person who would be entitled to pension and who applied therefor should be deemed to have waived all provisions of Workmen's Compensation Act, did not bar policeman from right to pension who had received award from Industrial Commission because o fa service-connected disability. *Johnson* v. *Board of Police and Fire Pension Commissioners of City of Long Beach*, 170 Pac. (2d) 48 (Cal. App., June 17, 1946).

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Rapid Reverse Winch

Gar Wood truck mounted Cranes with capacity from 3000 pounds to 10 tons are Full Powered and have varying boom lengths with 180° swing. Cranes are complete with all drive and mounting parts.

WHEN it comes to tough pulls and heavy lifts, the easy way is spelled G-A-R W-O-O-D. And whether you're doing direct pulls in the field, or heavy lifts on a construction job, it's the quickest, safest, most economical way, too.

For every Gar Wood Crane or Winch . . . and there's one built for *your* particular kind of rugged duty . . . is designed, engineered, and built to do the job with *maximum efficiency, greatest safety,* and *lowest upkeep.* That's why they make the toughest jobs *easy.* Finish jobs *faster.*

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OTHER PRODUCTS: HOISTS • BODIES • TANKS • ROAD MACHINERY • HEATING EQUIPMENT • MOTOR BOATS

Conventions—When and Where

Conventions listed this month for the first time are indicated by an asterisk (*)

*Nov. 10-13—Saratoga Springs, N. Y.
NEW YORK STATE CITIZENS COUNCIL. Annual State Citizens Conference. Exec. Sec., Mrs. Rhea M. Eckel, 309 So. McBride St., Syracuse 3, N. Y.

Nov. 11-13—Philadelphia, Pa.
NATIONAL MUNICIPAL LEAGUE. National Conference on Government (Hotel Bellevue-Stratford). Exec. Dir., Alfred Willoughby, 299 Broadway, New York 7, N. Y.

Nov. 11-13—Philadelphia, Pa.
NATIONAL ASSOCIATION OF CIVIC SECRETARIES. Annual Meeting to coincide with National Municipal League Conference on Government (Hotel Bellevue-Stratford). Sec., Miss H. Marie Dermitt, 5724 Darlington Rd., Pittsburgh, Pa.

Nov. 11-14—Miami, Fla.
INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual Convention (Hotel Alcazar). Sec., Irvin Shulsinger, 8 East 41 St., New York.

Nov. 12-14—Cleveland, Ohio
AMERICAN PUBLIC HEALTH ASSOCIATION. Annual Meeting (Public Auditorium). Exec. Sec., Dr. Reginald W. Atwater, 1790 Broadway, New York 19, N. Y.

Nov. 12-13—Birmingham, Ala.
SOUTHEASTERN ASSOCIATION OF STATE HIGHWAY OFFICIALS. Annual Meeting (Tutwiler Hotel). Sec.-Treas., H. J. Neale, State Dept. of Highways, Richmond 19, Va.

Nov. 14-15—Reading, Pa.
PENNSYLVANIA MUNICIPAL AUTHORITIES ASSOCIATION. Annual Conference (Hotel Abraham Lincoln). Sec.-Treas., Claude C. Fogelman, 1717 Main St., Northampton, Pa.

Nov. 14-15—Richmond, Va.
AMERICAN WATER WORKS ASSOCIATION—VIRGINIA SECTION. Annual Convention (John Marshall Hotel). Sec., W. H. Shewbridge, State Dept. of Health, 708 State Office Bldg., Richmond 22, Va.

Nov. 15-17—Green Bay, Wis.
AMERICAN WATER WORKS ASSOCIATION—WISCONSIN SECTION. Annual Meeting (Northland Hotel). Sec., Leon A. Smith, Supt. Water Works, City Hall, Madison, Wis.

Nov. 17-20—St. Louis, Mo.
AMERICAN INSTITUTE OF PARK EXECUTIVES. Annual Meeting (Hotel Jefferson). Exec. Sec., Dave Hovey, P. O. Box 422, Rockford, Ill.

Nov. 17-20—Chicago, Ill.
AMERICAN MUNICIPAL ASSOCIATION. Annual Conference (Hotel Congress). Exec. Dir., Earl D. Mallery, 1313 E. 60 St., Chicago, Ill.

Nov. 18-20—Raleigh, N. C.
AMERICAN WATER WORKS ASSOCIATION—NORTH CAROLINA SECTION. Annual Convention (Hotel Sir Walter Raleigh). Sec.-Treas., George S. Moore, P.O. Box 125, Albemarle, N. C.

Nov. 18-20—Raleigh, N. C.
NORTH CAROLINA SEWAGE WORKS ASSOCIATION. Joint Meeting with the foregoing.

*Nov. 19-21—Chicago, Ill.
NATIONAL COMMITTEE ON HOUSING, INC. National Conference (Drake Hotel). Exec. Vice-chairman, Henry R. Propper, 1 Madison Ave., New York 10, N. Y.

Nov. 20-22—New York, N. Y.
NEW JERSEY STATE LEAGUE OF MUNICIPALITIES. Annual Conference (Hotel New Yorker). Exec. Sec., James J. Smith, 808 Trenton Trust Bldg., Trenton, N. J.

*Nov. 24-27—Miami Beach, Fla.
FLORIDA LEAGUE OF MUNICIPALITIES. Annual Meeting (Hotel Roney-Plaza). Sec.-Treas., E. P. Owen, Jr., 1707 Barnett National Bank Bldg., Jacksonville, Fla.

Nov. 22-24—Havana, Cuba
AMERICAN WATER WORKS ASSOCIATION—CUBAN AND FLORIDA SECTIONS. Joint Meeting. Sec. Cuban Section, L. H. Daniel, P.O. Box 531, Havana. Sec. Florida Section, A. P. Black, University of Florida, Gainesville.

*Nov. 29-30—Douglas, Ariz.
ARIZONA MUNICIPAL LEAGUE. Annual Convention. Sec., J. C. Furst, City Hall, Phoenix, Ariz.

Dec. 2-4—Washington, D. C.
NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS. Annual Meeting. Exec. Dir., Charles S. Rhyne, 730 Jackson Pl., NW, Washington.

Dec. 2-4—Harlingen, Texas
LEAGUE OF TEXAS MUNICIPALITIES. Annual Convention (Hotel Reese-Wil-Mond). Exec. Dir., E. E. McAdams, League of Texas Municipalities, 220 Guadalupe St., Austin, Texas.

Dec. 2-6—New York, N. Y.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Annual Meeting (Hotel Pennsylvania). Exec. Asst. Sec., Ernest Hartford, 29 W. 39 St., New York.

*Dec. 5-6—Worcester, Mass.
MASSACHUSETTS SELECTMEN ASSOCIATION. Annual Convention (Bancroft Hotel). Massachusetts Selectmen Association, So. Sudbury, Mass.

Dec. 5-8—Baltimore, Md.
NATIONAL COUNCILS OF STATE & LOCAL PUBLIC WELFARE ADMINISTRATIONS (SECTION OF AMERICAN PUBLIC WELFARE ASSOCIATION). Annual Round Table Meeting and meeting of National Council of State and Local Welfare Administrators (Lord Baltimore Hotel). Sec., Howard L. Russell, 1313 E. 60 St., Chicago 37, Ill.

Dec. 5-8—Washington, D. C.
HIGHWAY RESEARCH BOARD—NATIONAL RESEARCH COUNCIL. Annual Meeting, National Academy of Sciences-National Research Council Bldg. Dir., Roy W. Crum, 2101 Constitution Ave., Washington.

Dec. 6-7—New York, N. Y.
TAX INSTITUTE. Annual Conference. Exec. Sec., Miss Mabel L. Walker, Tax Institute, 150 Nassau St., New York, N. Y.

Dec. 17-20—Los Angeles, Calif.
AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS. Annual Meeting (Biltmore Hotel). Exec. Sec., Hal H. Hale, 1220 National Press Bldg., Washington, D. C.

*Jan. 17—New York, N. Y.
NEW YORK STATE SEWAGE WORKS ASSOCIATION. Annual Meeting (Henry Hudson Hotel). Sec.-Treas., A. F. Dappert, State Dept. of Health, Albany, N. Y.

*Jan. 17—New York, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Mid-Winter Luncheon Meeting (Commodore Hotel). Sec.-Treas., R. K. Blanchard, 50 W. 50 St., New York 20, N. Y.

*Jan. 20-22—Washington, D. C.
UNITED STATES CONFERENCE OF MAYORS. Annual Conference (Hotel Statler). Exec. Dir., Paul V. Betters, 730 Jackson Pl., Washington, D. C.

Jan. 27-30—Chicago, Ill.
ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC. Annual Convention (Hotel Stevens). H. E. Foreman, 1227 Munsey Bldg., Washington, D. C.

*Feb. 3-6—Lafayette, Ind.
PURDUE SCHOOL OF CIVIL ENGINEERING. Annual Road School (Memorial Union Bldg. and Armory). Ben. H. Petty, Prof. Highway Engineering, Purdue University, Lafayette, Ind.

Feb. 11-14—St. Louis, Mo.
COMMUNITY CHESTS AND COUNCILS, INC. Annual Convention (Hotel Statler). Exec. Dir., Ralph K. Blanchard, 55 E. 44 St., New York.

The Municipal Bond Market

THE exemption of interest income on municipal bonds from federal taxes, coupled with the strong financial condition of most municipalities, has created an unusually large demand for municipal bonds, with the consequent decline in yield from such investment.

This situation may be illustrated by comparing the average of certain municipal bonds listed in *The Bond Buyer* with the yield (after corporate income taxes) on U. S. Treasury 2½'s of 1972/67. The municipals registered an all-time high last April with a yield of 1.29%, as compared with a yield of 1.21% for the governments, a spread of only .08 basis points.

Using *The Bond Buyer's* average of eleven best-grade bonds, the spread between the two groups has widened from .17 basis points in favor of the governments last April to .12 in favor of the municipals during the first week in October.

Thus, the municipals have attained the status of the most sought-after investment in the United States.

Some sales of new issues reported in recent issues of *The Bond Buyer:*

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$250,000	Amsterdam, N. Y., Incinerator Plant of 1946	1.25	8.50 Avg.	1.256
425,000	Evansville, Ind., Park	1.25	11.75 Avg.	1.237
290,000	Wenham, Mass., Water	1.50	2-30 Ser.	1.383
800,000	Allentown, Pa., Sch. Dist.	1.50	15.75 Avg.	1.47
251,000	Franklin Co., Ohio, Sewer Dist., Truro No. 1	1.50	13.66 Avg.	1.49
160,000	Aurora, Ill., Incinerator	2	6 Avg.	1.08
100,000	Clinton, Tenn., Street Improvement	2	7-16 Ser.	1.901
131,000	Cut Bank, Mont., Water System Revenue	2.75	6.25/11.33 O.-A.	2.403
175,000	Sidney, Mont., Water System Revenue	2.75	5.50/11.33 O.-A.	2.359
275,000	Fort Myers, Fla., Utility Revenue Certificates	2.75	15.75 Avg.	2.874

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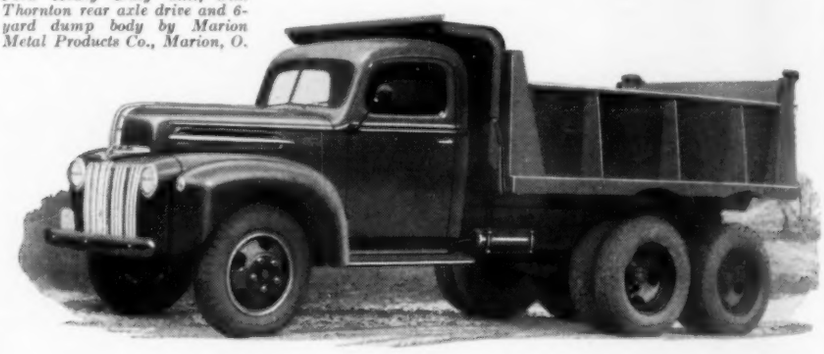
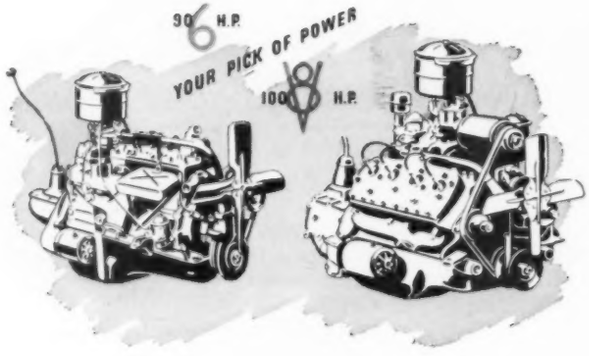


One big reason—

FORD ENGINES STAND UP!



Ford Truck engines—either the famous 100-H.P. V-8 or the extra-thrifty 90-H.P. Six—are world-famous for endurance in severe service. Here are some reasons why: They're of time-proved L-head type, quiet, simple, efficient—hardened valve seat inserts resist pounding and pitting—precision-set valves need no adjusting—valve springs are shot-peened and rust-proofed for long life—Ford alloy cast steel crankshafts are balanced and counterbalanced for enduring smoothness—Flightlight aluminum alloy 4-ring pistons maintain good compression, save oil. Full pressure lubrication, with positive, large-capacity oil pumps, plus effective crankcase ventilation, scientifically correct cooling and efficient oil- and air-filtering, all prolong Ford engine life.

Ford

There are more than fifty such long-life features throughout Ford Truck engines and chassis. NO OTHER TRUCKS BRING YOU ALL THESE IMPORTANT PLUS VALUES AT ANY PRICE. It is the extra worth which Ford alone offers that makes Ford Trucks Last Longer. This extra value tells you clearly why 7 out of 11 of all Ford Trucks registered since 1928 are still in service—why more than half of all Ford Trucks on the job are at least nine years old!

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Municipal and Civic Publications

Alfred Bettman Memorial Volume

CITY AND REGIONAL PLANNING PAPERS.—*By Alfred Bettman. Edited by Arthur C. Comey, Harvard University Press, Cambridge 38, Mass.* 1946. *XIX + 294 pp.* $4.50.

Volume XIII of the Harvard City Planning Studies, this book, a memorial to the late Alfred Bettman, consists of a collection of his papers written over the last thirty years and covers principal controversial planning issues.

The editor of the edition, Arthur C. Comey, comments in the preface that it is astonishing how many of these documents are still as timely as when released. He declares. ". . . most of the more controversial planning issues are dealt with one by one and yet in such a manner as to fit together as a composite statement, thus bearing out his [Bettman's] own repeated insistence that park planning, major street planning, even zoning were not in themselves city planning, but only became so when integrated with one another in a comprehensive or master plan."

Alfred Bettman was an eminent member of the bar, who looked upon the law as a means of getting something done rather than as a hindrance. John Lord O'Brian, describing his long career of public usefulness in the foreword, makes the statement, "As he himself [Bettman] expressed it, the great problem on which he brooded and labored was to make planning not merely fit into, but actually preserve and strengthen democracy." The book is an expression of Bettman's character, patience, understanding, and the success of his work; it should serve to keep alive his basic ideas and principles on planning.

Part I is made up of a selection of Bettman's papers; Part II consists of two of his most important law briefs — including the pioneering Village of Euclid v. Ambler Realty Co. case, which pegged down the constitutionality of zoning in the leading U. S. Supreme Court case; Part III includes his most important contributions in the presentation of model drafts for statutes; and Part IV is a bibliography of more than eighty-five titles of Bettman's articles, briefs, and other published works in the fields of planning and housing.

Planning Annual

AMERICAN PLANNING AND CIVIC ANNUAL, 1945.—*Edited by Harlean James. The American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C.* 1946. *226 pp.* $3.00.

Consisting of some forty-five brief papers on various aspects of national, state, and metropolitan city and town planning, housing and neighborhood improvement, and citizen education in planning, the 1945 edition of the Annual incorporates the discussions presented at the Citizens Conference on Planning held at Dallas, Texas, April 21-24, 1946.

Considerable stress is laid on conservation of resources, although this year the Annual omits state park reports. These reports will be available in a forthcoming yearbook to be published by the National Conference on State Parks.

Legal Guide for Contractors

THE CONTRACTOR'S LEGAL PROBLEMS.—*By Norris L. Hayward. McGraw-Hill Book Co., 330 West 42 St., New York, N. Y.* 1946. *175 pp.* $2.50.

Guide describing the principles of the laws which govern construction work. The study avoids technical language but presents clearly the legal points with which the contractor should be familiar. Each chapter deals with a specific legal problem that might arise any time in the construction business and is based on actual rulings of American courts.

Reports of Civic Activity in Promoting Community Welfare

PATTERNS OF PROGRESS.—*included in monthly Chamber of Commerce Newsletter. Chamber of Commerce of the United States, Washington, D. C.* 1946. *1 page. Available in quantity at 1 cent per copy.*

Series of leaflets which are sent out with the Chamber of Commerce *Newsletter* each month and intended to stimulate interest in the techniques and procedures of civic committees throughout the country. The leaflets may be ordered by other organizations or by interested individuals. Reports issued to date are: "A Rural Fire Prevention Program", "A 'Face Lifting' Project", "A Living War Memorial", "A Successful Chamber-Sponsored Radio Program" all in the August *Newsletter;* and "Building Good Will in the Trade Area", "Chamber Active in Civic Affairs", and "Tourists Activities of Chambers of Commerce" in September issue.

Housing Economics

THE ECONOMICS OF HOUSING AS PRESENTED BY ECONOMISTS, APPRAISERS, AND OTHER EVALUATING GROUPS.—*By Laura M. Kingsbury. King's Crown Press, Morningside Heights, New York, N. Y.* 1946. *Bibliography. Index. 164 pp.* $2.50.

Believing that what housing needs is a new philosophy of economics which recognizes the concrete valuation of houses and land in money terms, the author of this scholarly treatise searches for a few housing and value terms which can be easily identified on the market and in the home, as an aid to consumers and others. Miss Kingsbury hopes that the study may help clear the way for "building such an evaluating structure" of housing in a future work.

The first 102 pages are devoted to a painstaking analysis of classical economic theories on housing and housing value. Among the works examined for any material having to do with housing values are those of Adam Smith, Ricardo, Mill, Jevons, Marshall, Clark, Fisher, Cassel, Dorau, and Hinman. The 62 pages of Part II are concerned with a valuation of housing by "practical" groups—appraisers, accountants, tax assessors, architects, housing managers, and government housing agencies.

Transit Facts

TRANSIT FACT BOOK 1946.—*American Transit Association, 292 Madison Ave., New York 17, N. Y. 59 pp.*

This fourth annual edition of the Fact Book covers the operations of the transit industry through December 31, 1945. It is a summary of basic data and trends for the whole industry. The statistics, graphs, and illustrations are well-prepared and effective, making the material easy to understand and absorb.

Highway Needs Studied

INTERSTATE HIGHWAYS: A NEW NETWORK OF HIGH TYPE FREE ROADS FOR THE NATION.—*American Automobile Association, Traffic Engineering and Safety Department, Pennsylvania Ave., at 17 St., N. W., Washington, D. C. Illus. 24 pp.*

Summary of the interregional highway program authorized by the Federal Aid Highway Act of 1944. The report explains briefly what the plan is, its importance to the economy as a whole, and the different types of roads planned for various traffic needs. A list of selected references on street and highway transportation is included.

Management of a Large Airport

TERMINAL AIRPORT FINANCING AND MANAGEMENT.—*By Lynn L. Bollinger, Alan Passen, and Robert E. McElfresh. Division of Research, Harvard Business School, Soldiers Field, Boston 63, Mass.* 1946. *Index. 385 pp.* $4.25.

Comprehensive study of the management of terminal-type airports which are defined as "those for which a major purpose is serving a community's air transportation needs." The book is based on an intensive field study of fifty-one airports, conferences with city and state officials, C.A.A. officials, airline executives, and representatives of various transportation associations.

The book is divided into four parts. Part I discusses public and private financial responsibilities. Part II examines present-day capital costs, expenses, and revenues. Part III illustrates and tests the proposed rate-setting procedure and indicates how financial self-sufficiency can be attained at airports. Part IV deals with management control.

Traffic Commission Proposed for Springfield

TRAFFIC STUDY.—*By the research staff and consultants of Future Springfield, Inc., 1383 Main St., Springfield, Mass.* 1946. *Illus 19 pp.* 25c.

This excellently designed pamphlet report is interesting because it does not attempt to make specific recommendations for improvements in the handling of Springfield's traffic. Rather, the study proposes a change in the organization of the city government, providing for a traffic commission with a traffic engineering department to deal with the continually changing traffic problems of the city. It is pointed out that new business and new industry seeking a location in the city will certainly examine the local traffic situation and for that reason it is a problem which warrants thoughtful attention and directed action.

Evolution of Courthouses in Kansas

KANSAS COURTHOUSES.—*League of Kansas Municipalities, Topeka, Kans. Bulletin 133. Reprinted from Kansas Government Journal* 1946. *Illus. 8 pp.* $1.00.

Series of articles which appeared in the Kansas Government Journal in June, July, and August of this year. The articles discuss the probable development of county buildings within the next few years and describe the old courthouse which will have to be remodeled or give way to new buildings. Various provisions and financial measures taken by Kansas counties to speed the building programs are listed.

War Housing Disposal Recommendations

SURVEY STUDY AND RECOMMENDATIONS ON HOUSING FOR THE LOWER PENINSULA OF VIRGINIA.—*Committee on Housing and Slum Clearance of The Lower Peninsula Planning Commission of Virginia, 4500 Washington Ave., Newport News, Va.* 1946. *Tables. 32 pp.*

Stating that the problem of the disposition of war housing is probably the most serious confronting the community studied, the report attempts to provide for satisfactory disposition of the housing built when the area was devoted almost 100% to wartime activities. Stress is laid on protecting real estate values. Population, employment, and economic trends were used in making the final determinations for the specific projects.

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IN EVERY COMMERCIAL FORM

New Edition of Planning Classic

GARDEN CITIES OF TOMORROW.—*By Ebenezer Howard. F. J. Osborn, Editor. Introductory essay by Lewis Mumford. Faber and Faber Ltd., 24 Russell Square, London. Available in U. S. through TransAtlantic Arts, 69-81 108 St., Forest Hills, N. Y. 168 pp.* $2.00.

First published in 1898 as *Tomorrow: a Peaceful Path to Real Reform*, this book, which has had a profound influence on town planning literature, still stands up extremely well despite the passage of almost half a century in which volumes have been written on theories of city building and rebuilding and how to carry out those theories. The editor declares: "What is astonishing is not that it has faded on the edges, but that its center remains so clear and bright."

Howard's proposals anticipate, to an extent few realize, ideas that dominate current planning thought and discussion, and they are presented with great persuasiveness and clarity.

Planning Manhattan's Washington Square Area

PLANNING RECOMMENDATIONS FOR THE WASHINGTON SQUARE AREA.—*By Arthur C. Holden. The Washington Square Association, 65 Fifth Ave., New York 3, N. Y.* 1946. 101 *pp.*

With the stated objectives of the report to protect existing values, permit the realization of potential values, and help to correct long years of neglect, these "trial plan" studies for this historic area confirm the need for a concerted attempt at constructive area planning coordinated with city planning. The report states, "Without a general comprehensive program of procedure there seems to be no way of avoiding economic burdens more crushing than those which have already retarded the proper and logical development of this important section of Manhattan."

Public Administration Guide

BIBLIOGRAPHY ON PUBLIC ADMINISTRATION.—*By Catheryn Seckler-Hudson, School of Social Sciences and Public Affairs, American University Press, Washington, D. C.* 1946. 49 *pp.*

A bibliography compiled to provide selected materials for the student of public administration interested primarily in national administration. References to works on state and local administration and business administration are also included. The booklet lists general resources, periodicals, and government publications concerned with administration, in addition to books on various aspects of the field. Readers who wish to specialize in a given area of public administration will find the table of contents arranged for their convenience.

War Housing in Portland

FROM ROSES TO RIVETS.—*An Account of the Housing Authority of Portland, 9015 N. Foss Ave., Portland, Ore.* 1946. *Illus. Unpaged.*

Report of the accomplishments of the Portland Housing Authority during the war years since its creation in 1941. The booklet is effectively illustrated with pictures of the various projects, the buildings, and the recreation, education, health, and other facilities provided. Charts giving rental rates and financial statistics for the projects are included.

Especially interesting is the story of the development of Vanport City, the public housing city of 40,000 built in the last three months of 1942. The study lists the services provided, the street and sidewalk planning, the landscaping, transportation, and utilities, and the departments that make up the city. The future of Vanport is still doubtful, but its development offers an interesting study in public housing.

Community Recreation Guide

ESSENTIALS FOR DEVELOPING COMMUNITY RECREATION.—*The Athletic Institute, 209 State St., Chicago 4, Ill.* 1946. 26 *pp.* 25c.

Booklet presenting the "Ten-Point Essentials of the Public Recreation System" adopted by the Division of Recreation, Federal Security Agency. The ten-point program is developed further, and valuable suggestions for adapting it to every community are included. Each section in the outline of recreation development includes references which should prove useful to the citizen or official concerned with the problem of community recreation.

Intergovernmental Relations

ADVENTURE IN GOVERNMENTAL GEARING IN HENRY COUNTY, INDIANA.—*Council on Intergovernmental Relations, 214½ S. 14 St., New Castle, Ind.* 1946. 48 *pp.*

This is the third in the series of the Council on Intergovernmental Relations reports on the experimental programs that are in progress in five counties throughout the country. The other two reports on Blue Earth County, Minn., and Greene County, Ga., are available from the national headquarters at 202 Transportation Bldg., Washington 6, D. C.

The local experiments, all independent, but financed by the Spelman Fund, have been undertaken to find the points of friction in the relations of local, state, and federal governments, and to suggest means of eliminating such friction and at the same time strengthen local government. (See page 100 of this issue.)

Living Memorials

"Commemoration through Community Services," a handsome brochure on living memorials, is available from THE AMERICAN CITY, 470 Fourth Ave., New York 16, N. Y., for $1.00. Special price for quantity orders.

Social Welfare Text

COMMUNITY ORGANIZATION FOR SOCIAL WELFARE.—*By Wayne McMillen. University of Chicago Press, Chicago 37, Ill. Second impression,* 1946. 658 *pp.* $4.75.

Although designed mainly as a textbook, the book contains valuable material for public welfare administrators and private social agencies, as well as for all citizens who desire to improve their communities.

The author declares that the primary objective of the community organization process is to help people to find ways to give expression to their inherent desires to improve the environment in which they live. The book is concerned with evaluating the concrete methods used in the day-to-day job of those engaged in community organization and with analyzing group behavior and identifying the powers that make groups respond and act.

Each chapter is supported by pertinent documents, many otherwise unobtainable, which have been successfully used in teaching. Selected reading lists may also be found at the end of each chapter which should be especially useful for further study in the community organization field.

Smoke Ordinance for Toledo

AN ORDINANCE NO. 342-46. RELATING TO THE EMISSION OF SMOKE AND THE POLLUTION OF AIR.—*Toledo City Journal, Sept. 28, 1946, Toledo, Ohio. pp.* 540-544.

An ordinance to protect Toledo from smoke and dust pollution which prescribes methods of enforcing penalties, setting up a department of smoke regulation, and providing for an emergency. The ordinance was passed on September 23 as an emergency measure.

References on Veterans' Housing

RENTAL HOUSING FOR VETERANS.—*Office of the Expediter, National Housing Agency, and Federal Housing Administration, Washington, D. C.* 1946. *Appendix.* 20 *pp.*

This booklet gives a general non-technical approach to various financial aspects of the question of financing rental housing projects. It shows that rental housing projects offer unusual advantages for all concerned: profitable operations for builders, stable income for sponsors, sound long-term investments for mortgage lenders, and high wages and steady employment for labor.

The appendix illustrates eight suggested small layouts for rental housing projects for veterans' occupancy, and also includes a filled-in FHA form demonstrating how a project is set up for mortgage insurance.

VETERANS HOUSING REFERRAL CENTERS.—*Community Action Bulletin 6, National Housing Agency, Washington, D. C.* 1946. *Exhibits.* 11 *pp.*

This bulletin gives specific information on the establishment and operation of housing referral centers for veterans, and how to tie in the service with other community agencies. Exhibits include suggested forms for listing rooms and dwelling units and applications for dwelling units or rooms.

Making Swimming Pools Safe

SWIMMING POOL OPERATION.—*Educational Health Circular Number 125. Division of Sanitary Engineering, Department of Public Health, State of Illinois.* 1946. *Mimeo.* 47 *pp.*

A clear, well-stated, and carefully prepared discussion of all factors having to do with the design and operation of facilities for indoor and outdoor pools. It has many recommendations for swimming pool operators, both public and private, and lays great stress on the proper operation of pools. A check list provides local health officials with a ready and effective guide for pool inspections.

Street Construction Reference

THE BARRETT ROAD BOOK.—*The Barrett Division, Allied Chemical and Dye Corp., 40 Rector St., New York, N. Y. Seventh edition.* 1946. 54 *pp.*

A concise volume designed to give the engineer the type of information he needs to build or maintain low-cost bituminous surface streets. Although keyed to the company's product, Tarvia, the tables can be used equally well for any liquid bituminous material applied by a truck-mounted power distributor.

The book includes factors controlling the use of distributors of various sizes, tables covering the quantities of aggregates to be used per unit of roadway, and instructions that will give a practical guide for good base and surface treatments. It also carries instructions and diagrams on the proper method of unloading a tank car and data that will aid in measuring its volume.

Other Reports Received

AURORA, ILL.—Fifteenth Annual Report of the Sewage Treatment Plant. 1945. Charts. 52 pp.

BUREAU OF THE CENSUS.—City Finances, 1944. Vol. 3: *Statistical Compendium.* U. S. Department of Commerce, Washington, D. C. 1946. Tables. 255 pp. 70c.

CINCINNATI, OHIO.—*Airports.* Cincinnati Planning Commission. 1946. 85 pp.

GRAND RAPIDS, MICH.—*Grand Rapids' Official Thoroughfare Plan and Résumé of Study.* Metropolitan Grand Rapids Planning Association.

IRVINGTON, N. J.—*Annual Report.* 1945. 7 pp.

PRESIDENT'S HIGHWAY SAFETY CONFERENCE.—*Action Program.* Washington, D. C. 1946. 23 pp.

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Park-O-Meter is constructed in accord with today's trend in engineering design which seeks elimination of manual operation in favor of positive, trouble-free, automatic operation.

The public expects and accepts automatic operation. That is why many of the nation's most progressive cities are specifying Park-O-Meter installations . . . why your city *should* do so.

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Universal, too

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News and Illustrations

Items of interest to city, town and county officials and others concerned with the economical construction and efficient operation of public improvement undertakings

Municipalities Find Mower a Time-Saver

A Flink Rawls power mower, the property of Wellston, Ohio, cuts a heavy stand of weeds.

An increasing number of municipalities are finding that by purchasing a mechanical mower they save time and money keeping vacant lots and roadsides free of brush. The Flink Company, Streator, Ill., has designed an easy-to-operate, all-purpose mower. This device, shown in the accompanying illustration, is in use at Wellston, Ohio.

This mower, according to the company, has been designed for simplicity of operation, for maneuverability, for inexpensive operation, and for a wide speed range of from 3 to 13 mph. Municipalities that have local ordinances requiring that vacant lots be kept cut find that owners in many cases do not comply and the city must have lawns cut and charge the cost to the owners. Such places may find it wise to follow the lead of other municipalities who are using Flink-Rawls mowers to do this work.

It may be pointed out that this device has a year-round usefulness, since it can be equipped with a snow plow and grader blade; or it can be equipped with a tow bar or front hitch and lawn mowers attached.

Moore Returns from Service And Reopens Consulting Office

Herbert Moore, sanitary engineer, has returned to private practice in Milwaukee after three years of service in the Sanitary Corps of the Army. He will reopen his office in the Pereles Building at 259 East Wells St.

Mr. Moore, a civil engineering graduate of Cornell University, received his master's degree in sanitary engineering from Harvard University. He spent fifteen months in the European theater, serving with the 7th medical laboratory of the 3rd Army and later with headquarters of the U.S. Air Force in Europe.

Mr. Moore started his career of sanitary engineering with the firm of Greeley and Hansen of Chicago and later worked for the Jerry Donohue Engineering Co., of Sheboygan, Wis. He has worked on over forty sewage disposal and water supply projects in nine states and has been resident engineer in several cities. While with the U.S. Army Engineer Corps in 1935-36, he designed a water filtration plant and sewerage facilities for the Conchas Dam Construction Camp, New Mexico; in 1937 he was field inspector on the construction of the Buffalo, N. Y., sludge digestion tanks.

Mr. Moore's work has included numerous water supply investigations and reports dealing with the problem of ground water development, including reports for Horicon and Hurley in Wisconsin.

He is a member of the American Society of Civil Engineers, the National Society of Professional Engineers, American Water Works Association and the American Public Health Association.

Pennsalt Pamphlet Describes Action of 2, 4-D

The killing power of Penco 2, 4-D weed killer is described in a new eight-page color leaflet published by the Pennsylvania Salt Manufacturing Co., 1000 Widener Bldg., Philadelphia 7, Pa. Illustrations show how Penco 2,4-D is absorbed by leaves, descends to the roots and kills the plant by interfering with formation of its food.

The leaflet also lists weeds which the killer will destroy, tells where it is best applied, when to spray, the effect on the soil, and precautions for its use.

Everything Is Here!

You get a complete service when you tackle snow problems with this Walter snow fighter with its center scraper and sand spreader manufactured by Walter Motor Truck Co., 1001-19 Irving Ave., Ridgewood, L. I., N. Y. Generally, a snowstorm finds you without an abundance of labor handy; but this truck will separate abrasives and will use its center mounted scraper to cut the amount of ice or packed snow to a minimum.

Over 100,000 MULTIPLE-COIN miller meters IN OVER 365* cities...

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NO. 1 IN PERFORMANCE EVEN IN SUB-ZERO TEMPERATURES

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THOUSANDS MORE **MILLERS SERVE MORE CITIES** EACH WEEK

New Powerful Loud-speaker Has Low Power Requirements

New Haven, Conn., uses a Dilks loud-speaker mounted on one of its fire trucks for easy transmission of instructions to members of the department.

A new loud-speaker system requiring only 20-watt power to send sound a mile or more over the noise of traffic and working apparatus has been introduced by Dilks, Inc., Norwalk, Conn. This public address system, called Vocal-Aire, is especially suited for controlling crowds and individuals by fire and police departments, and for paging and announcing at municipal airports.

The power of the Vocal-Aire is derived from the flow of air into the unit from a compressor. This flow is controlled and modulated by the voice valve, a device driven by an amplifier of low power output. The grids in the valve are pierced with tiny slits and channels through which the pulses of air are metered into the horn by movements of less than a thousandth of an inch. The armature which is attached to the movable grid is moved by the voice coil, the magnetic forces set up by the amplifier actuating the valve in response to the microphone voice.

Though the Vocal-Aire uses a horn of conventional appearance, the coverage pattern extends over 360° of arc. Because of this sound distribution, fewer horns are required for large areas.

Two kinds of power are required—air for the horn system and electricity for the amplifier. Since the air pressure required is only 10 or 20 pounds, this can be provided by a small electric motor-driven compressor or by a light gasoline engine for locations remote from regular power. In this case the electricity for the amplifier can also be supplied by a generator driven from the gas engine. Where compressed air is available it can be connected to the horn through a filter regulator supplied for the purpose.

Spann Promoted by Gardner-Denver

B. P. Spann, former advertising manager of the Gardner-Denver Co., Quincy, Ill., has been promoted to the post of personnel and industrial relations director. Mr. Spann, who has been with the company since 1934, except for thirty-eight months in the Navy, will be in charge of all factory and official personnel of the company's Quincy plant.

D. P. Tunnicliff is the new advertising manager. Mr. Tunnicliff graduated from the University of Illinois in 1943 with a B.S. degree in journalism. He was formerly employed by the Quincy *Herald-Whig* in an editorial capacity. Prior to that time, he had served three years of active duty in the Navy.

Ward LaFrance Names Consulting Engineer

Nils J. Bjorck was named consulting engineer for fire apparatus sales in the general sales department of Ward LaFrance Truck Division of Great American Industries, Inc., Elmira, N. Y., according to Wendell P. Rice, General Sales Manager.

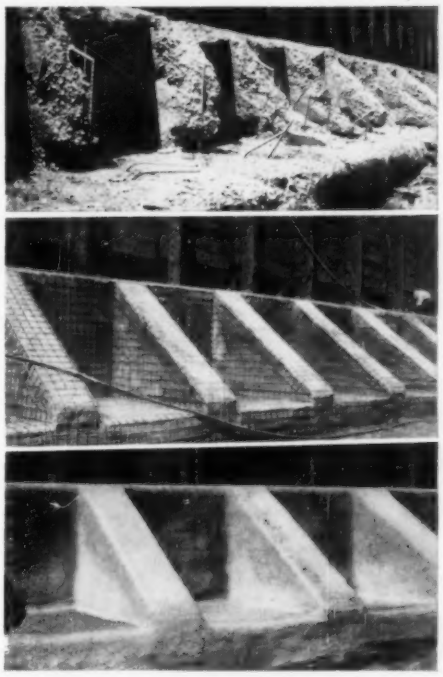
Nils J. Bjorck

Prior to this appointment, Mr. Bjorck served as acting chief engineer of the division with which he became connected in 1936. He entered the industry in 1918 with the Lange Co. of Pittsburgh and subsequently was with Continental Motors and Chrysler Corp.

CEMENT GUN COMPANY

"GUNITE" CONTRACTORS

GENERAL OFFICES—ALLENTOWN, PENNA., U.S.A.



DAM SAVED WITH "GUNITE"

The upper photo shows the condition of the downstream buttresses of a dam belonging to the Central New York Power Corporation, Trenton Falls, New York, about ten years after they were built.

The middle photo shows how we restored the buttresses with lean "GUNITE" to within two inches of the original lines, with reinforcing mesh placed preparatory to applying the final armor coat of two inch "GUNITE."

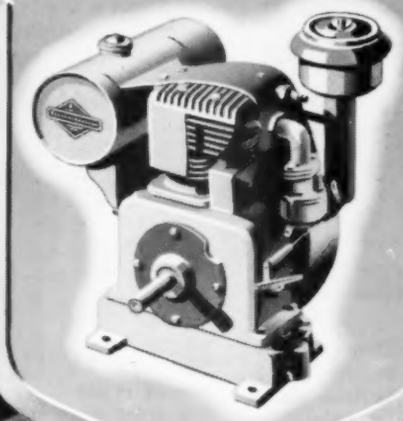
The lower photo shows the "GUNITE" work after completion.

This "GUNITE" job has now been completed for twelve years, and a recent inspection showed the "GUNITE" to be in perfect condition.

Our 72-page general bulletin D2300 describes this and scores of other jobs, and we will be glad to send you a copy upon request.

MANUFACTURERS OF THE "CEMENT GUN"

Equipment Performance Depends on the Engine that Powers It!



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BRIGGS & STRATTON

Engines are "Tops" in Demand

There are over 2½ million reasons for today's unprecedented demands for Briggs & Stratton powered equipment. They are the more than 2½ million Briggs & Stratton engines built during the past 26 years. These engines have established an unbeatable record for instant starting, long life, dependable operation, and maximum performance with a minimum of servicing. No wonder these stout-hearted, precision-built engines rate "tops" as the *power choice* of equipment users, dealers and manufacturers everywhere! And here's good news! Deliveries are improving with our stepped-up production. It will pay you to wait until you can have equipment that's powered RIGHT by — Briggs & Stratton air-cooled engines — the world's finest.

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Air-Cooled Power

4 CYCLE
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INSTALL NEW SEWERS...

HAVE "BUSINESS AS USUAL"

You can forget about closed streets and the delays, hazards and inconvenience of trenching when you use ARMCO Tunnel Liner to install new sewers. The work moves quickly and economically and business above ground continues as usual.

Fast tunneling is the rule with ARMCO Liner Plates. Even inexperienced crews can install them quickly. One man easily handles the lightweight steel sections, bolting them together with regular wrenches.

And you buy *sinewy strength*—not bulky pounds. This means less excavation; also storage requirements are smaller. You gain added safety, fire protection, and experience shows that ARMCO Plates cost less to carry a given load than any other type of tunnel lining.

Consider tunneling that next sewer job with the aid of ARMCO Liner Plates. Motorists and property owners will thank you and the chances are you'll "hole through" ahead of schedule and under the estimate. Write today for complete facts. Armco Drainage & Metal Products, Inc., and Associated Companies, 1455 Curtis St., Middletown, Ohio.

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TUNNEL LINER PLATES

For Demounting Tires

This Presto hydraulic tire demounter Model B-2 is demounting a 18.00-24 tire.

The demounting of large-size tires can be made easier for municipal department heads by the use of the Presto hydraulic tire demounter, Model B-2, manufactured by Lee Engineering Co., Pawtucket, R. I.

This demounter has adjustable crosshead assembly and fingers and handles all sizes of tires from 7.00-15 to 24.00-24. The adjustable pressure plate makes its use possible on all sizes of wheels and rims. The demounter is easily portable, since the complete crosshead assembly weighs only 104 lbs.

The equipment, of all-steel construction, develops and withstands pressures in excess of 60,000 lbs. and is equipped with a high-pressure, double-acting, hydraulic pump of 4,000 lbs. psi.

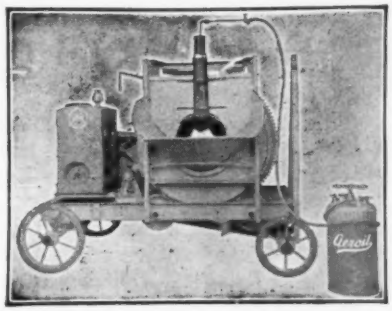
Heil Opens Office in Atlanta

The Heil Co., Milwaukee 1, Wis., has established a new district sales office in the Candler Building, Atlanta, Ga., under the direction of Jack Davies, district manager. This is one of seven field offices being maintained for service and close contact with the company's distributor organization.

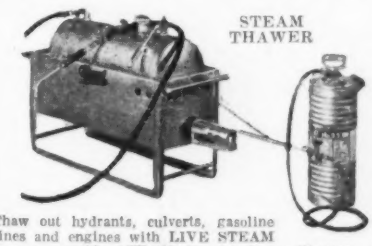
The Atlanta office will service Heil distributors in North and South Carolina, Georgia, Florida, Alabama, and part of Tennessee. Mr. Davies will handle sales of road machinery, bottle washers, heating and water systems, and dehydrators. Alec Milne, former national accounts representative at Detroit, has been transferred to Atlanta and will concentrate on sales of Heil bodies and hoists and tanks.

Both men have seen overseas duty with the army.

HOT CONCRETE



Don't risk batch failures due to frost. Pour HOT CONCRETE . . . it will stay warm 48 to 60 hours . . . long enough to set properly. AEROIL Concrete Heaters to fit all sizes and shapes of mixers. In stock for shipment. Write for FREE Bul. No. 208.



STEAM THAWER

Thaw out hydrants, culverts, gasoline lines and engines with LIVE STEAM from a portable AEROIL No. 98 Steam Thawer. A 2-in-1 machine for the heating unit is a thawing torch. Steaming rate 90 lbs. per hour. FREE Leaflet No. 377.

Thawing Torches

Keep jobs running despite ice, sleet, snow or frost. AEROIL Thawing Torches and Thawing Outfits produce 2,000° F. Flame and operate despite high winds. No. 99 Senior only $22. (4-gal. model), and can be shipped for stock. Write today for complete bulletin No. 294.

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VAR-I-FEEDER Versatility

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From low priced constant feed models to proportional meter-controlled units for flow responsive treatment of variable flows, adjustable without interrupting pumping process, Var-I-Feeder is the chemical feeder for the job. Versatile Var-I-Feeders are available in all these types, plus units specially engineered for individual applications.

Var-I-Feeder is ordinarily electric motor driven, but can be easily adapted for belt connection to revolving shaft or pulley with electric motor omitted. If electricity is not available, any available RPM will do. Hydraulic and air-pressure driven units may also be provided if specified.

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Alum Feeding • Caustic Dosage • Hypochlorination • Aqua Ammoniation • Soda Ash Treatment • Swim Pool Water Treatment • Calgon for Corrosion Control • Chlorine Dioxide for Taste and Odor Control • Sterilization with HTH, Perchloron, Pittchlor or Bleach

Also...

ANY OTHER CHEMICAL SOLUTION USED IN — Water Works • Sewage Plants • Tourists Camps and Cabins • Swim Pools • Soft Drink Plants and Breweries • Textile Mills • Dairies • Laundries • Boiler Feed-Water Conditioning.

We construct and install special units for any industrial liquid process.

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AMERICAN Tower Lift

Nothing new but the Name

The American Coach & Body Company announces the purchase of the inventories, designs, tools, machines, and equipment of the Bird-White Tower division of the Bird-White Company. All production and operations are being moved to Cleveland, and the Bird-White Tower is now known as the American Tower Lift.

In this transfer of equipment and properties, there's nothing new but the name, for the product will not be changed, revised or redesigned in any way. The American Tower Lift, as before, offers all the advantages of heavier, more costly equipment without the high initial or maintenance cost. Simplicity of design and sturdy construction combine to give you low initial height, extreme elevations — up to 28 feet, rigid stability, and maximum safety to the operator. Raising and lowering action of the twin hydraulic rams is completely controlled by the operator from the tower lift platform. Special flooring assures safe footing, and locking guard rails can be folded when not in use. The American Tower Lift comes equipped with either the revolving or extended type of platform, and these platforms can be fully insulated to meet any need for high voltage. A high pressure rotary pump, actuated by a power take-off, assures smooth operation in the raising and lowering of the Tower.

When you get your copy of the Tower Lift Bulletin, you'll see why the American Tower Lift is ideal for heavy line work, street lighting, signal maintenance, and tree trimming. Write today.

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"Baker American" - Baker Equipment Engineering Co., Richmond, Va. - Sales and Assembly

General Detroit Has New Sales Manager

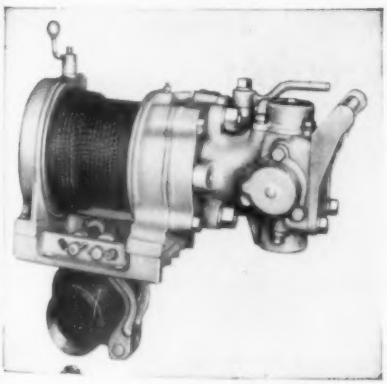
Gail Rutledge has been named midwestern regional sales manager of The General Detroit Corp., 200 East Jefferson Ave., Detroit, Mich., according to an announcement by E. A. Warren, vice-president in charge of sales. Mr. Rutledge will be located at the company's branch office 607 West Washington Blvd., Chicago, Ill., and will supervise sales in Illinois, Wisconsin, Minnesota, and South Dakota.

Gail Rutledge

Formerly manager of the Philadelphia office, and more recently assistant to the vice-president and coordinator of national accounts and branch operations, he joined General Detroit in 1944, having previously been associated with the Addressograph-Multigraph Corp.

Harold J. O'Neill succeeds Mr. Rutledge as assistant to the vice-president and coordinator of national accounts. Mr. O'Neill first joined the corporation in 1942 as manager of the CD-Sno Fog Division, the company's carbon dioxide extinguisher plant.

Lightweight, Air-Powered Hoist



The Air-Winch weights only 85 pounds but will provide you with a hoist which is capable of lifting 500 pounds.

A new, small, air-powered hoist named the Air-Winch, weighing only 85 lbs. and yet capable of lifting 500 lbs., has been announced by The Sullivan Division of the Joy Manufacturing Co., Michigan City, Ind. It has a rope capacity of 150 ft. of ¼-in. rope and is 18 in. long, 9½ in. high, and 11 in. wide. The Air-Winch is powered by a simple, 4-cylinder, reversible piston-type air motor and can be used in many different ways. It can be mounted in any position on timber, column, bar, or automobile. Regular equipment includes a set of clamps for column or bar mounting, but chains or common drift bolts can also be used to secure the winch. A conveniently operated brake-lever holds the load firmly and prevents the drum from spinning.

Ask for bulletin No. 76-H.

Foam-Making, Fire-Fighting Nozzle

A new Foamite Airfoam-Generating Nozzle, which mechanically creates Airfoam through scientific mixing of water, air, and Foamite Airfoam liquid to discharge the combined ingredients as Foamite Airfoam, has just been announced by the American-LaFrance-Foamite Corp., of Elmira, N. Y.

This device is especially suitable for extinguishing fires in flammable oils, paints, and varnishes.

The dual-purpose nozzle can be used either for a foam stream or a clear water stream. The operator makes the change simply by removing the pick-up tube from the Airfoam liquid. However, the nozzle is designed for best use as a generator of Airfoam and not for a clear water stream.

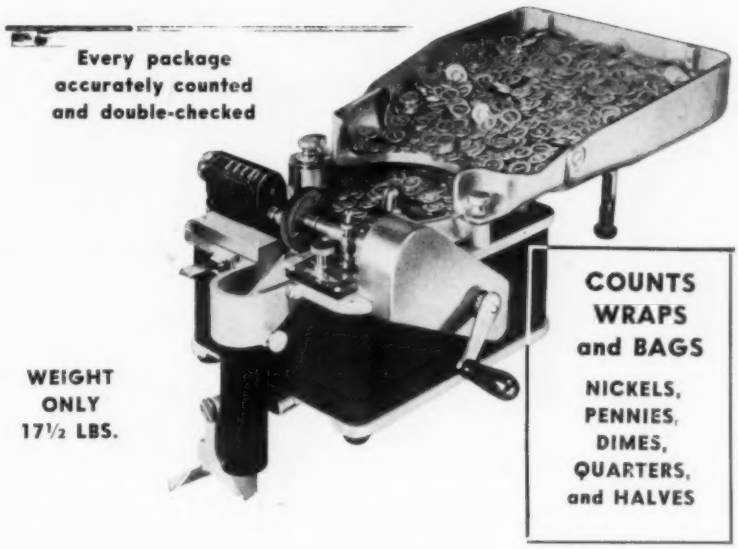
The new device is applicable for use not only in fire departments but in industrial plants, public buildings, or any establishment where emergency fire-fighting equipment must be operated quickly when fire breaks out.

EVERY CITY

When counting PARKING METER money,
can save valuable hours
by using the portable, lightweight

DOWNEY-JOHNSON

COIN COUNTER


Every package accurately counted and double-checked
WEIGHT ONLY 17½ LBS.
COUNTS WRAPS and BAGS
NICKELS, PENNIES, DIMES, QUARTERS, and HALVES

A Practical Investment That Pays Dividends Daily

Make the counting of your parking meter collections easy with this *Downey-Johnson* Model 20 PH *Coin Counter* . . . It will count and wrap 175 rolls of coins per hour or bag 35,000 nickels per hour. This small machine saves time and labor—gains valuable hours for productive purposes—yet is priced within the reach of all. WRITE FOR CIRCULAR TODAY.

Universal Business Equipment Co.

327 So. Dearborn St. **Chicago 5, Ill.**

KARPARK

THE HEART OF A SUCCESSFUL METER PARKING SYSTEM

KARPARKS ARE MANUFACTURED BY THE HERSCHEDE HALL CLOCK CO.

• Meter parking can bring great benefits to a city, but everything depends on the meter itself—the heart of the whole operation. That's why there are no shortcuts or substitutions of inferior materials in the making of a KARPARK. Built for accuracy, rugged strength, simple operation and requiring a minimum of servicing, KARPARK lives up to its reputation for dependability. This reputation has caused a demand which is difficult to meet even by greatly increased production. To arrange for future delivery write today for all the facts that make KARPARK the wise choice.

KARPARK *Automatics*

KARPARK CORPORATION, CINCINNATI 6, OHIO

MANAGEMENT INFORMATION SERVICE

Available to Cities and Towns on Subscription Basis

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A city has a management problem—needs technical advice—contacts MIS—receives prompt reply—problem settled.

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Subscription fee varies with size of city from $20 for under 5,000 to $400 for cities from 250,000 to 500,000 population.

MIS is now serving nearly 200 cities ranging in size from 1,000 to 400,000. For more details and fee for your city write:

The International City Managers' Association

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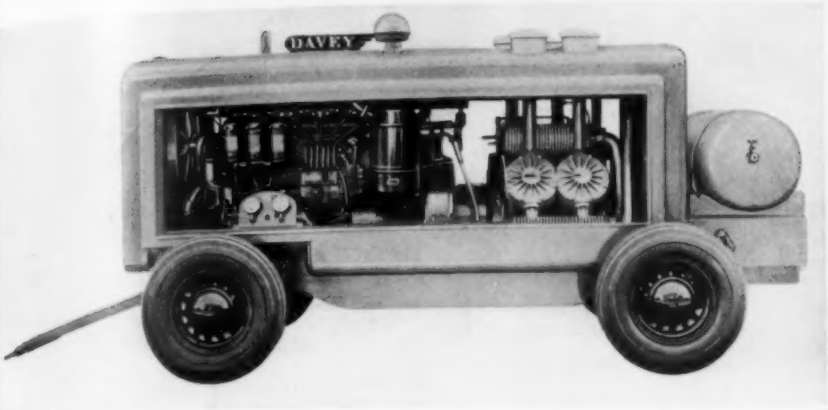
Compressors of New Design



A radical departure in design is the important feature of this new Davey compressor unit.

Davey Compressor Co., Kent, Ohio, has started production of the first model in its 1947 line, according to a recent announcement by Paul H. Davey, president.

The new compressor unit, 315-W (gas) and 315 WD (diesel), produces 315 cubic feet of free air per minute at 100-pound pressure. It is available in standard skid, steel wheel trailer, and pneumatic-tired trailer mounting styles, and flanged wheel types for railroad use.

The compressor unit represents a radical new departure in Davey design since it consists of two banks of three cylinders, each bank arranged in W form. This construction, together with a short 4-inch piston stroke, reduces compressor vibration to a minimum, according to Mr. Davey, and results in a cooler-operating, more efficient machine.

The four low-pressure cylinders on the compressor are fitted with individual air cleaners to provide exceptional cooling of cylinders and heads during idling periods.

The design also permits substantial reductions in the dimensions and in the weight.

The new model is equipped with aluminum alloy heads for rapid heat dissipation; and valves are of the peak performance lifetime type, permanently free from carbon formation. Aluminum crankcases are employed to effect weight savings.

At present gas units are equipped with Hercules RXLD engines, and diesels employ International UD-18 power plants. Other engine makes will be made optional as production improves.

Side tool boxes are included in all models as regular equipment. The gas tank is conveniently located beneath the air receiver.

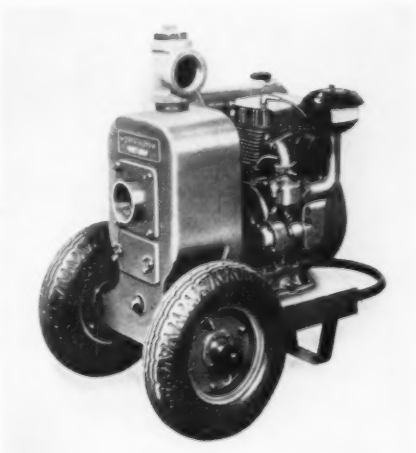
ing valves or "recirculation." The efficient hydraulic design which was tested and perfected in the manufacturer's modern hydraulic research laboratory has produced a line of pumping units that meets standard rating tables for this type of equipment with safety factors in both capacity and power.

These units, made of corrosion and abrasion resisting steel, are light in weight and streamlined in appearance. All sizes except the smallest (1½-inch) are regularly equipped with pneumatic-tired wheels, towing handles, and lifting bales. The 1½-inch pump is base mounted with lifting handles that permit it to be easily carried by one individual.

Pumps of 1½-inch and 4-inch size are available with standard air-cooled gasoline engines, while the 6-inch and 8-inch units are equipped with water-cooled engines, either gasoline or diesel, at the customer's option. Engines are regularly equipped with all necessary accessories and are manufactured by Worthington - Ransome Construction Equipment Division of Worthington Pump and Machinery Corp., Holyoke, Mass.

New Self-Priming Centrifugal Pumps

An outstanding feature of the new Blue Brute line of portable self-priming centrifugal pumps is quick and dependable self-priming action without prim-



Quick and dependable self-priming action without priming valves or "recirculation" is a characteristic of Worthington's new Blue Brute line of portable self-priming centrifugal pumps.

for MAXIMUM FROST PROTECTION

Ford Double-lid Meter Box Covers have a dead-air space in the neck and a sloping skirt which cut down heat loss to the minimum. They are recommended for water meter settings where climate and soil conditions demand maximum protection against freezing.

Information on request.

FORD Meter Box Co.
WABASH, INDIANA

LOW-COST *PHOTO*COPIES OF ANYTHING! Make them right in your own office!

Amazing New Unit
The APECO PHOTOEXACT
quickly, easily makes copies of
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Photo-Copyer $55 Copies up to 18" x 22"

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The Right Check Valves Can Make a Lot of Difference in Maintenance Costs

CHAPMAN

Tilting Disc

CHECK VALVES

The Chapman Tilting Disc Check Valve employs a balanced hinge-pinned disc which rides evenly in the flow when the valve is open and cushions quietly to a drop-tight seat when the flow slows down. By eliminating slamming, which jars pipelines, starts surging and opens up joints, maintenance costs are materially reduced. Head losses are cut 65% to 80% over convention type checks.

Chapman Tilting Disc Check Valves are obtainable in iron or steel. Send for free engineering data book.

THE CHAPMAN VALVE MFG. CO., INDIAN ORCHARD, MASS.

Parking Meter Receipts Counted by Machine

This machine can be adjusted to count coins of any denomination. It will count coins into a bag indefinitely at the rate of 2,200 dimes a minute or wrap 10 to 12 packages of coins in a minute's time.

"We installed parking meters in 1943, and it was immediately apparent that a method would have to be provided for counting the coins other than by hand," writes the purchasing agent of a progressive California city. "It took one girl working constantly to count from $200 to $300 worth of pennies and nickels daily."

This has been the general experience of municipalities upon installing meters, unless a counting machine is available.

There are a number of coin-counting machine manufacturers, but some of them quote a month's to a year's delay in deliveries. The Abbott Coin Counter Co., 143 St. and Wales Ave., New York, says it can deliver within four weeks.

The Abbott Coin Counter Company developed a machine which the operator can adjust in a second or two to count any of the six denominations: pennies, nickels, dimes, quarters, halves, and dollars. The machine may be set to lock when twenty, twenty-five, thirty, forty, or fifty coins have been counted, or it will count coins indefinitely into a bag at the rate of 2,200 dimes a minute or wrap ten to twelve packages of coins a minute. Coin-counting machines made in the United States use tubular coin wrappers, which can be furnished with the machine.

The Abbott line consists of several models, ranging from a hand-driven machine at $200 to a motor-driven one at $750, with others priced in between.

It is interesting to note that while a federal excise tax applies to coin-counting machines and all office equipment, an exemption from this can be had if the municipality will furnish the manufacturer with a simple signed form obtainable from him. Then the machine is invoiced without any federal excise tax.

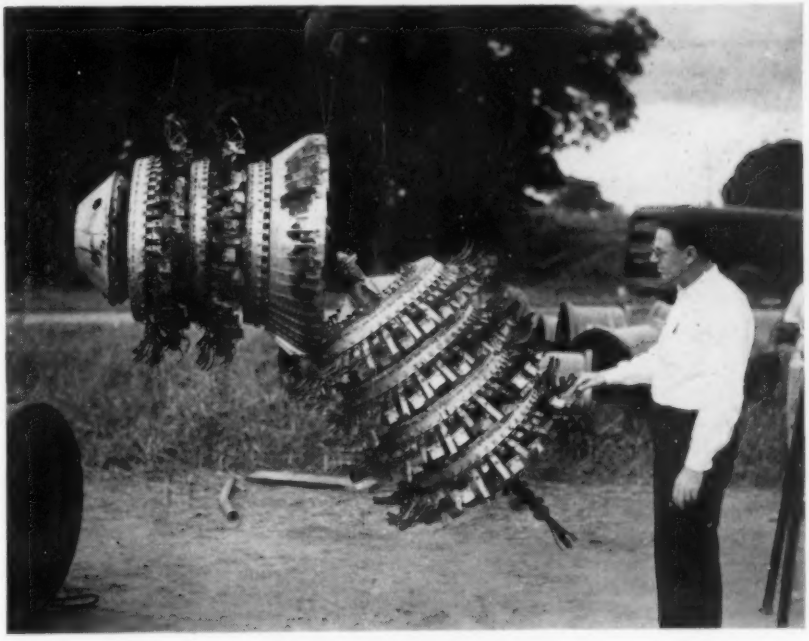
Calcium Chloride Assn. Moves to Washington

Because of the facilities offered for engineering and technical reference in the fields in which calcium chloride is used, The Calcium Chloride Association has moved its offices from Detroit, Mich., to 1028 Connecticut Ave., N. W., Washington 60, D. C.

The increased demand for calcium chloride during the war for refrigeration, for stabilizing roads, for expediting concrete construction, for dustproofing and freezeproofing coal shipments, and for use in many other fields has continued in the post-war period. This field experience has contributed to the fund of information which has been gathered over a period of many years.

The association was formed in 1933 by the Dow Chemical Co., the Pittsburgh Plate Glass Co., the Solvay Sales Corp., and the Wyandotte Chemicals Corp. for research and the distribution of information on the uses of calcium chloride.

Managing Director George H. Kimber and the engineering and editorial staff moved to the new headquarters late in September and have resumed the association program. They are planning to continue the *Calcium Chloride Association News*, and the library of educational motion pictures will be augmented. New and revised manuals and bulletins are being prepared for the benefit of users of calcium chloride.



"A BIG FELLOW"

But more important than its size is the ability of this pipe-cleaning machine to expand or contract automatically to take care of consecutive lengths of two sizes of pipe.

This machine first cleaned a 17,000-foot length of 30" pipe, then automatically expanded to clean the next 19,000 feet of 36" pipe (with 30" gate valves), then proceeded through a 30" line 21,090 feet long. Pipe-line capacity was increased more than 50 per cent.

Result? **Pipe-line capacity was increased more than 50 per cent.**

NATIONAL HAS THE EQUIPMENT

For 40 years NATIONAL has been devising equipment to meet all sorts of pipe cleaning conditions—resulting in a superior collection of just the right kind of equipment to meet any given situation.

THE NATIONAL WATER MAIN CLEANING COMPANY

Contractors for Cleaning of Water Mains

50 Church St., New York 7, N. Y.

ATLANTA 3
1221 Mortgage Guarantee Bldg.

BOSTON 15
115 Peterboro St.

CHICAGO 6
205 W. Wacker Dr.

KANSAS CITY 2
3707 Madison St.

MEMPHIS 3
519 Farnsworth Bldg.

MONTREAL 2
2028 Union Ave.

OMAHA 5
3812 Castellar St.

RICHMOND 19, VA.
210 E. Franklin St.

ST. LOUIS 17
7103 Dale Ave.

SAN FRANCISCO 5
501 Howard St.

WACO, TEXAS
The Rohan Co., Inc.
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WINNIPEG
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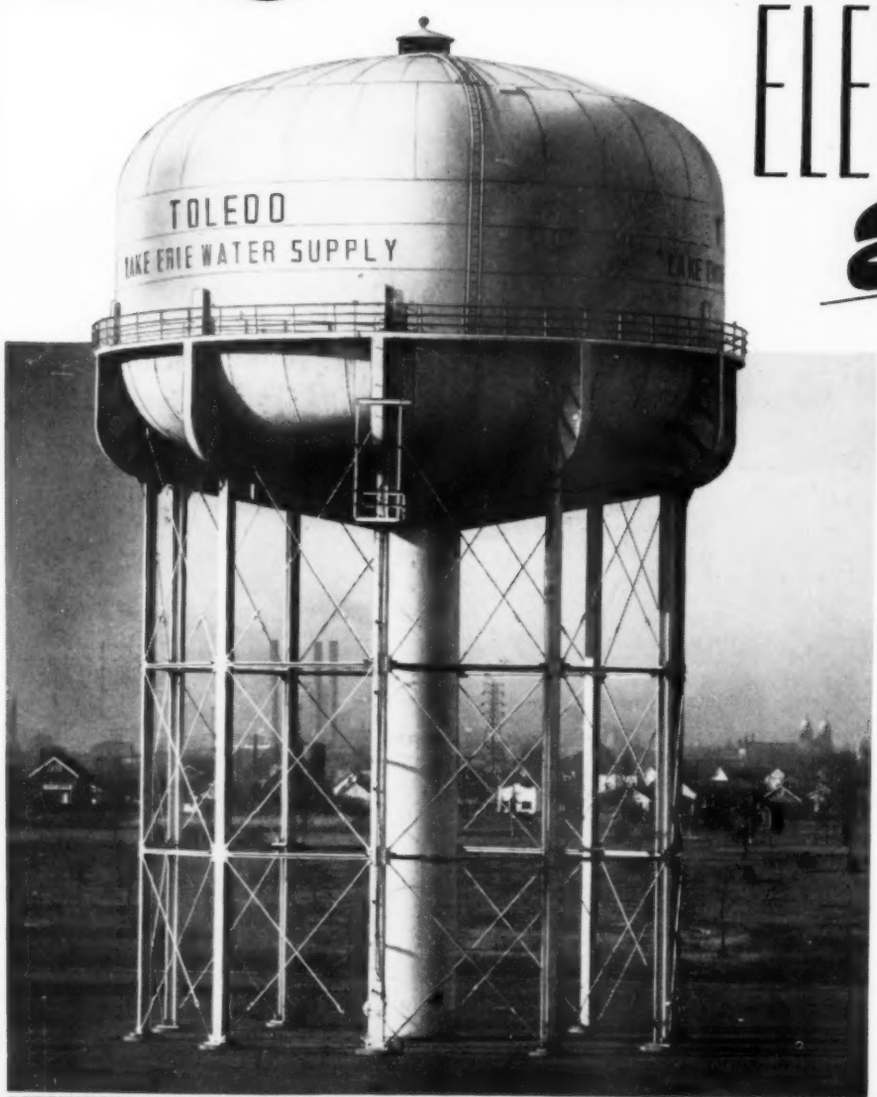
ELEVATED STEEL TANKS



ASSURE IMPROVED WATER SERVICE FOR EVERY COMMUNITY NEED!

Fundamental to modern municipal progress is better water service for the consumer—expressed in the desirable forms of constant supply, uniform pressures around the clock, dependable fire protection, ample reserves for emergencies. Elevated water storage in Pittsburgh-Des Moines Steel Tanks provides these benefits at low cost—originally, and during their many years of useful life. Write for the complete story of Modern Water Storage in our illustrated new brochure: we'll send your copy promptly!

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SEATTLE, 500 FIRST AVENUE SOUTH

FWD Safety School Bus Again in Production

This FWD safety school bus on a model HR chassis is powered with a 6-cylinder 129-hp engine. The four-wheel drive principle is held as a safety factor in student transportation.

The Four Wheel Drive Auto Co., Clintonville, Wis., has announced the return of the FWD safety school bus to its standard line of 4-wheel-drive vehicles.

According to company officials, the inherent safety of power and traction on four driving wheels, found in these school buses, diminishes hazards to a minimum. This claim is based on exhaustive research which has found that 4-wheel-drive buses are safer on the straightway, on hills, and on curves than either rear-wheel or front-wheel drive vehicles.

On the open road, the conventional 2-wheel-drive bus loses traction and encounters slippage at a point where a 4-wheel drive vehicle of the same weight retains a one-third margin of friction coefficient which may be used to resist the effects of surface irregularities or obstructions and to apply greater speed. On hills or long grades this one-third margin of friction coefficient enables the FWD bus to climb the same grade at a greater speed.

The greatest safety advantage, according to the survey, is on curves, where the FWD bus has at least a 26.5 per cent margin against slippage as compared with the rear-wheel-drive vehicle. The same margin of friction coefficient is used to resist external side thrust and thus prevent skidding.

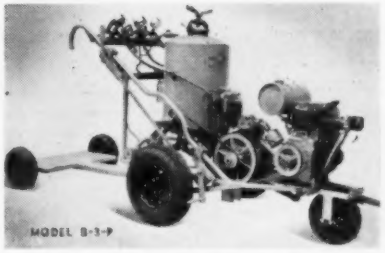
This safety school bus is engineered to meet the requirements of The National Commission of Safety Education. The chassis is an FWD model HR powered with a 6-cylinder 129 hp engine. It is manufactured with 191- or 227-inch wheel base, but the base may vary according to the capacity of the bus body. Size is optional with capacities ranging from forty-two to sixty passengers.

In his 36th annual report to stockholders of the company, Walter A. Olen, president of Four Wheel Drive, reported a profit of $385,943.61 for the fiscal year which ended June 30, 1946. He pointed out that commercial sales for the year reached a new peacetime high. These total sales, including government business, amounted to $18,628,835.17.

Ranney Offices Moved to Columbus

Ranney Method Water Supplies, Inc., formerly located in Louisville, Ky., has moved its offices to 507 Majestic Bldg., 63 South High St., Columbus, Ohio.

There is a Kelly-Creswell Model that will SOLVE your Zone Marking Problems.



Uniform Cross-Distribution
Clean-cut, Attractive Lines
Pressure Cleaning Equipment
Air-Actuated Traction.

More Highway Zone-Marking Material is applied thru K-C Equipment than thru any other make. ***There must be a reason.***

KELLY-CRESWELL CO., Xenia, Ohio

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Fresh, high quality broom fibres last longer

AFRICAN BASS FIBRES

INDIA PALMYRAH STALKS

The longer mileage you obtain from fresh broom fibres means less time-taking refilling of the broom core and valuable man-hours put to an extra use. The use of fresh, high-quality fibres in your mechanical sweeper is sound economy these days.

We are able to service every need in all types and sizes. We would be happy to receive your request for samples and quotations.

MOUNTAIN HICKORY SPLINTS

STEEL WIRE SWEEPER STALKS

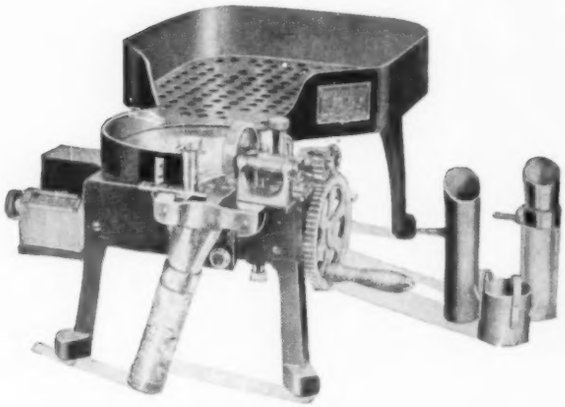
The OTTO GERDAU CO.

Established 1872

82 Wall Street, New York 5, N. Y.

Attention: PARKING METER CITIES

We have sold many Abbott Coin Counting Machines to municipalities for counting and wrapping money taken in from parking meters. AVAILABLE NOW.



MODEL No. 2X—(Hand Operated)

Adjustable for pennies, nickels, dimes, quarters or halves. Can be set to lock automatically when 20, 25, 30, 40 or 50 coins have been counted or will count indefinitely into a bag. An operator can count and package 400 coins a minute or count 2000 coins into a bag. Register can be reset to zero.

MODEL No. 4ET—(Electric)

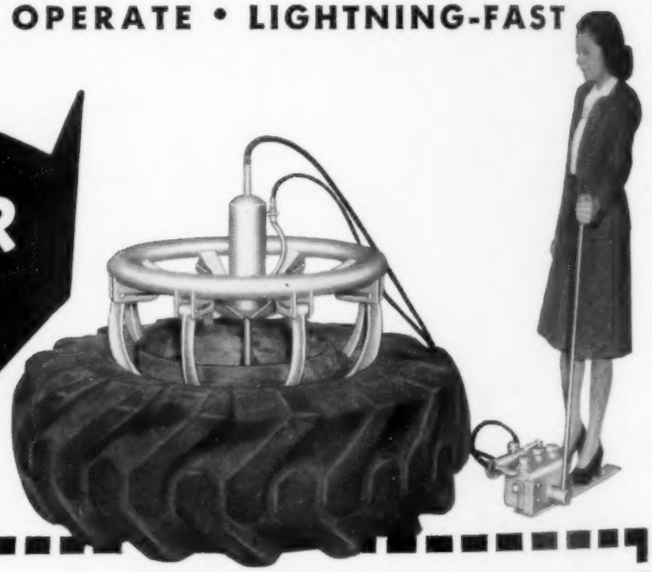
A large motor-driven machine with an unusual reputation for speed and durability. Will handle all coins. Automatically locks after each count of 20, 25, 30, 40 or 50 coins or will count indefinitely into a bag. Register can be reset to zero.

ABBOTT COIN COUNTER COMPANY

143rd St. and Wales Ave.,
New York 54, N. Y.

AMAZING POWER • EASY TO OPERATE • LIGHTNING-FAST

PRESTO HYDRAULIC DEMOUNTER



1. Develops and withstands pressures in excess of 60,000 pounds.
2. Demounts sizes from 7.00-15 to 24.00-24 without damage to tire, tube, wheel or rim.
3. No tire too small, too large or too tough.
4. Small, light, portable . . . all-steel construction.
5. High pressure double-acting hydraulic cylinder and pump.

All parts carry a one-year guarantee.

$295 NET

F.O.B. PAWTUCKET, R. I.
IMMEDIATE DELIVERY
MONEY-BACK GUARANTEE

Order NOW from any authorized distributor or

LEE ENGINEERING CO.
PAWTUCKET, RHODE ISLAND

LEE ENGINEERING COMPANY • Pawtucket, R. I.

Send complete information on the new Presto Model B Demounter.

NAME.....

STREET AND NO.....

CITY..... ZONE..... STATE.....

A

Line Material Opens New Factory

The Line Material Company's new factory and office building at Kansas City. This building will also provide warehouse space for the office's southwest distributors.

Line Material Co., Milwaukee 1, Wis., formally opened its new plant at Kansas City, Mo., recently. Present facilities are designed primarily for making galvanized pole line hardware and specialty items, but future plans provide for the manufacture of a wide variety of products.

Michael Ruggieri

The factory-and-office building was erected during the past nine months and includes all modern features. An electrically heated and controlled galvanizing installation insures the highest quality protective coating on all line construction material items. Part of the building will be used to increase the company's warehouse facilities for serving the southwest, since its location provides excellent transportation and shipping facilities for serving this great area.

The manufacture of pole line hardware at Gary, Ind., has been discontinued and the Gary plant sold. The Kansas City plant provides greatly expanded facilities. J. B. Schwartz, who for many years managed the Gary operations, is in charge of the new Kansas City works.

This new plant is the seventh plant in the company's growing chain of manufacturing facilities strategically located throughout the country.

The company also announced recently the appointment of Michael Ruggieri as plant manager of the factory at Birmingham, Ala.

Mr. Ruggieri has been connected with the organization for more than 15 years. Previously, from 1926 to 1929, he was a design engineer for the Electrical Engineers Equipment Co. He joined the Line Material Co. in 1929 as design engineer at the South Milwaukee, Wis., plant and continued in that capacity until 1936, when he became chief engineer at East Stroudsburg, Pa.

A member of the American Institute of Electrical Engineers, he serves on the National Electrical Manufacturers Association's technical committee of the street and highway lighting division, and is a member of the joint NEMA-EEA committee on standardization of street and highway lighting.

Standee Windows in New Street Car

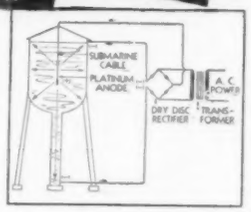
A new model all-electric P.C.C. car, called Car 1600, with extended dynamic braking, cushioned power shutoff, improved ventilation and lighting, standee windows, and other outstanding features for increased comfort and service, is described in a new booklet announced by the Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa. The new 24-page booklet includes photographs of the new model now in service in Pittsburgh, schematic diagrams, performance curves, and an analysis of P.C.C. cars as compared with other types of city transit. Steps built for safety, specially designed lights and fixtures, new wide aisles, and dash lights designed for better night vision are also sketched.

Ask for booklet B-3697.

RUSTA RESTOR *Keeps Tanks in Continuous Service*

Modern Proved Cathodic Method Provides Lasting Protection Against Rusting — Eliminates Both the Loss of Service, and Cost, of Interior Painting.

Engineered to the individual tank and water conditions Rusta Restor, the modern, cathodic method, maintains the tank in a "neutralized" state that not only prevents rusting but also removes the products of any earlier rusting. Approved and endorsed by national and state authorities. Inexpensive to install. Operation costs two mills ($0.002) per year per sq. ft. of surface protected.



RUSTA RESTOR
A DIVISION OF
THE JOHNSTON & JENNINGS COMPANY
861 ADDISON ROAD • • • CLEVELAND 14, OHIO

Locate Underground Leaks

without any digging . . .

with a

GEOPHONE

(Reg. U. S. Pat. Off.)

The original leak locator of the Geophone type

Placed in contact with earth, the GEOPHONE accurately detects, by sound, the position of leaks in underground water or steam pipes.

Leaks are too costly to be ignored. A pin-point size leak wastes 65,000 gallons of water annually!

A GEOPHONE saves the cost of locating leaks—saves the costs of surveys, excavating, replacing. A big paying investment for water, sewerage and Public Works Departments; for any plant with underground water or steam pipes.

Outfit complete with two GEOPHONES, connecting tubes, earphones, in heavy leather carrying case with shoulder straps. ...$75

Write at once to

Globe Phone Mfg. Corp.

Dept. H., Reading, Mass.

Manufacturers of the Geophone Since 1918

Pin a Medal on the Engineer who said,

"CLEAN WATERMAINS FIRST .... BEFORE ADDING NEW & LARGER WATERMAINS"

Flexible Pressure Tool utilizes pressure of fluid flowing through pipe.

OFFICIALS of one city would like to pin a medal on the engineer who made the above statement, because their water department increased pumping capacity 365,000,000 gallons per year by having Flexible clean their mains. In actual profit over a period of five years, they saved $3,650 a year plus the value of the additional water pumped, which was estimated to be approximately $2,663. This pipe cleaning job, costing $2,000.00, actually paid 200% profit the *first year* and continued to pay each year for five years.

Tests made this year (the fifth test) show little change. This city's name will be furnished on request.

Clean your pipe lines *first*. Save costly cuts in the street — call, write or wire Flexible for an estimate on your pipe cleaning problems.

Centrifugal force throws chain head cutters in contact with pipe to remove tuberculation.

Flexible crews are equipped to handle any pipe cleaning job. Flexible power unit is shown.

Fleets of trucks (illustrated) are strategically located throughout United States.

FLEXIBLE WILL CLEAN ANY PIPE FROM 2 TO 72 INCHES

Flexible UNDERGROUND PIPE CLEANING CO.

9059 VENICE BOULEVARD • LOS ANGELES • CALIF.

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228 W. Broad St., Columbus 8, Ohio
1624 Harmon Place, Minneapolis 3, Minn.
P. O. Box 165 Atlanta.
P. O. Box 447, Lancaster, Texas.
41 Greenway St., Hamden, Conn.
147 Hillside Ter., Irvington, N. J.
P. O. Box 694, Pittsburgh.
401 Broadway, New York 13.
29 Cardan Ave., Roslindale 31, Mass.

Gov. Dewey Inspects G-E Electronics Development

Gov. Thomas E. Dewey (left) and Dr. W. G. Baker, G-E vice-president in charge of electronics, inspect the model of G-E's new Electronic Park before inspecting the progress of the construction on the development itself. Notice the landscaping planned.

Governor Thomas E. Dewey of New York recently inspected construction progress on the new $20,000,000 "Electronics Park" development, which is being built on the outskirts of Syracuse by the General Electric Company for its Electronics Department.

The new plant, with a floor area of one million square feet, is laid out and landscaped like a college campus. It will house the main manufacturing units of the Electronics Department. Employes will work in well-lighted, air-conditioned factory buildings and offices, surrounded by park-like grounds and reached by modern highways leading to and through the plant. Every modern facility for safe, efficient manufacturing operation will be available. (See THE AMERICAN CITY, December 1945, page 106.)

From this electronics center will come television, FM radio and wire recordings for entertainment and education; radar for sea and air safety; and two-way radio for emergency communications. Here also will be developed other new uses for electronics.

The plant will house the main manufacturing units of the development.

Correction

Chicago Bridge & Iron Co., Chicago 4, Ill., regrets that because of an error in labeling a photograph, the tank shown in the upper left hand corner of page 130 of the September 1946 issue of THE AMERICAN CITY was incorrectly identified. This shows a 200,000-gallon elevated water tank built by the company at Lansing Township, Mich., and not at Pittsfield Village, near Ann Arbor, Mich., as was indicated in the article.

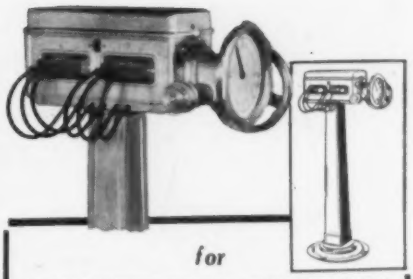
Permutit Acquires Simplex Valve and Meter

H. W. Foulds, president of The Permutit Co., 330 W. 42 St., New York, N. Y., manufacturers of water conditioning equipment, industrial ion-exchangers, and power plant specialties, announced recently that his company has acquired the Simplex Valve and Meter Co., of Philadelphia, Pa. Mr. Foulds succeeds W. H. Roth as president of the newly-acquired subsidiary, while Mr. Roth is now the Simplex board chairman.

H. W. Foulds

The Simplex company, prominent in the design and manufacture of equipment for the control and regulation of liquid flow, will continue to operate under its own name.

"Many advantages are to be derived from the cooperation of the engineering, research, and sales organizations of the two companies," Mr. Foulds said, "and these will accrue to Permutit, which has been the largest customer for Simplex products."



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BALANCED PUMP OPERATION

Specify

SELECTROL

SELECTROL closely balances total pump capacity with rate of inflow at each operating level, for either rising or falling level cycle. It handles up to 18 circuits singly or in combination for any float travel up to 40 feet. A large number of circuits can be handled on limited float travel. A feature of SELECTROL is the "Lost Motion Clutch" which balances pumps of unequal capacity without "hunting". AUTOMATIC can help you with your multiple circuit problems—write for Bulletin S-7.

AUTOMATIC CONTROL Company

1015 University Ave., St. Paul 4, Minn.

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LARGEST CITY TO SMALLEST VILLAGE

VALVES COMPLETE EQUIPMENT FOR WATER WORKS FILTRATION AND SEWAGE DISPOSAL PLANTS LATEST "COREY TYPE" HYDRANTS

Write for Catalogue and Information

IOWA VALVE CO.

General Offices:
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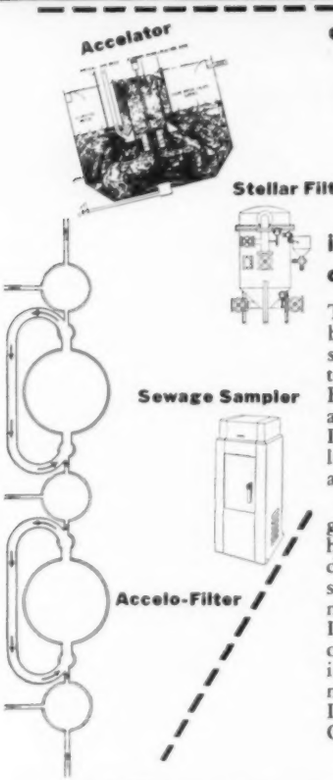
Oskaloosa, Iowa

A complete family



...the best insurance of centralized responsibility

Those diagrams at left picture basic Infilco equipment that has solved many a water, sewage or trade waste treatment problem. But they still only hint at the size and abilities of the complete Infilco family. It's a family with long experience at treating most any type of water or waste.

For over fifty years, Infilco engineers have worked hand-in-hand with municipalities and industry. Continuous research and steady development of new equipment for new needs has made the Infilco line a broad and complete one. So for the best in engineering skill and the best in equipment, consult with INFILCO INC., 325 West 25th Place, Chicago 16, Illinois.

CONSULT INFILCO — FIRST IN WATER AND TRADE WASTE TREATMENT

Armor-Flex Traffic Markers

This remarkable plastic marker is being rapidly adopted by traffic officials because they have tried it in their "tough" spots and it has sold itself. Markings placed ten years ago are still in service. It's the most for your "marking dollar" and takes the "headache" out of traffic marking.

Armor-Flex is easily and quickly installed with simple equipment which we supply. Applied to the pavement surface with special hot mastic. Traffic uses at once. It is self polishing and maintains very high visibility. Any desired size of markings can be supplied. Wide variety of pavement messages. Our agents supervise first installations.

Write for literature—"Painting vs. Armor-Flex." Authentic data from the experience of leading traffic officials.

BE SURE TO CONSIDER ARMOR-FLEX FOR POST-WAR PROGRAMS

Read about the Newark, N. J., installation on pages 114, 115 of this issue of The American City

For Full Information Write

ARMOR-FLEX COMPANY
St. Louis 22, Mo.

WE WANT TO HELP YOU
What are your plans for 1947?
What are your requirements likely to be for Outdoor Drinking Fountains, Hydrants and Street Washers?
We ask early because bronze and brass are not in plentiful supply.
Write us now. We will be glad to cooperate and make early deliveries.
"Buy for Service—Buy Murdock"
The Murdock Mfg. & Sup. Co.
426 Plum St. Cincinnati 2, Ohio
MURDOCK
OUTDOOR DRINKING FOUNTAIN
ANTI-FREEZING COMPRESSION HYDRANT
LARGE ANTI-FREEZING HYDRANTS 1½" TO 2" INCLUSIVE
SELF-CLOSING ANTI-FREEZING HYDRANT
"LOCK-LID" STREET WASHERS ¾" and 1" SIZES

GIANT

Reduce Pipe-Laying Costs with a GIANT Pipe Pusher

Write for booklet telling of this small inexpensive tool that pushes pipe (up to 15" diameter) through the ground at the rate of 1 to 5 feet per minute, thus avoiding the heavy expense of trenching.

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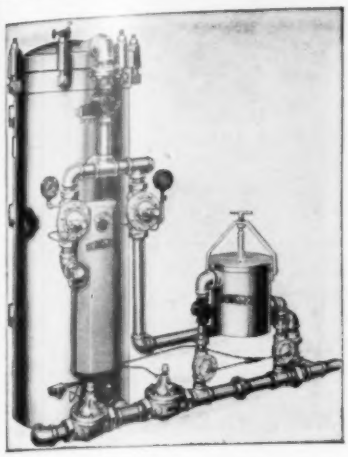
GIANT MFG. CO.
Council Bluffs, Iowa

ENGINEER
Desires Position

Engineer trained in rat proofing buildings desires position with large city to take charge of a rat proofing program. Have organized and supervised over thirty of these programs, highest references as to ability and competence.

Address Box #265.
The American City
470 Fourth Avenue
New York 16, N. Y.

Filters for Swimming Pools and Industrial Filtration



The Bowser filter for use in any size of pool and most industrial filtration.

Bowser, Inc., Fort Wayne, Ind., is producing a new series of water filters for swimming pools and industrial water filtration, according to a recent announcement made by Fred S. Ehrman, general sales manager.

L. H. DeHaven is sales manager of the water filter division and author of a monograph dealing with the diatomite method of water filtration. Copies of this monograph are available to municipal and industrial engineers and swimming-pool operators on request.

Bowser filters range in capacity from 15 to 500 gpm with 7 to 248 square feet of filtering area to serve all sizes of swimming pools and most industrial requirements.

Said to occupy only one twentieth of the space needed for conventional sand filters, the Bowser filters periodically backwash filtered impurities to improve sanitary conditions, and no manual cleaning is required.

Filter elements are tubular, plastic-impregnated cartridges which support the filtering medium. Diatomaceous earth is deposited evenly on these cartridges from the pre-coat pot and removes particules as small as half a micron, including all dirt, oils, and other foreign matter, to produce filtered water of unusual clarity.

Color Films Depict Weed and Insect War

Two new educational color-and-sound movies were previewed for the press at the Monte Carlo Casino recently by the producers, the Sherwin-Williams Co., 101 Prospect Ave., Cleveland, Ohio, the world's largest insecticide and paint manufacturers. The films portray man's struggle against weeds and insects, which yearly cost hundreds of millions of dollars and untold human suffering and annoyance.

The films, "Good-by Weeds" and "Doomsday for Pests," were made by Jerry Fairbanks, Inc. "Good-by Weeds" opens by showing early caveman's struggle against weeds, and traces his successors up to the present, unexpectedly revealing that modern man, in the atomic age, is using practically the same weapon against weeds that the caveman used.

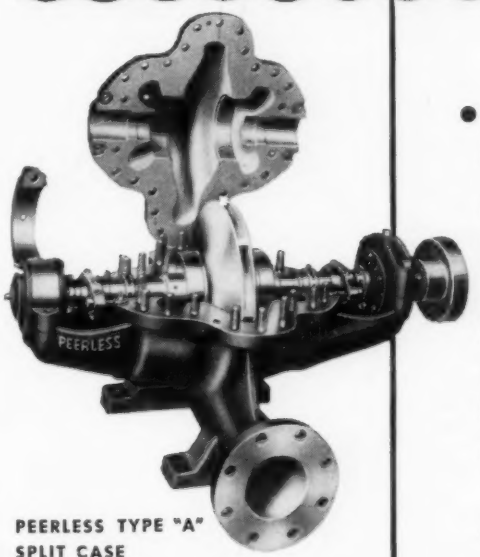
After this review of war against wild plant-life, "Goodby Weeds" depicts the role that science is playing in its recently developed super-weapon against weeds. The weapon is Dichlorophenoxyacetic acid, or 2, 4-D, which destroys weeds merely by spraying the 2, 4-D mixed with water on lawns, golf courses, or weed-ridden vacant lots. Fortunately, 2, 4-D does not harm common lawn grass.

Weed-No-More, as Sherwin-Williams calls their 2, 4-D product, destroys ragweed, poison ivy, thistle, and scores of other weeds—even marijuana.

"Doomsday for Pests" describes the effectiveness of DDT on insect pests. Novel treatment is given by showing the war against insects from the bug's viewpoint. Action film then shows how Pestroy DDT should be used. Sherwin-Williams' research for a year after its release developed two DDT bug-killers, one a 10% powder and the other a 6% liquid coating. The film demonstrates that the powder should be used generally on horizontal surfaces and on areas (fabrics, upholstery, dogs, etc.), and that the coating is for use on vertical surfaces and places (screens, fixtures, refuse cans, closet shelves, lockers, drains, where DDT crystals must be bound to the surface.

PEERLESS
(FORMERLY DAYTON-DOWD)
Horizontal Centrifugal PUMPS

General Service
Continuous Duty
A Wide Range of Sizes and Capacities
Up to 60,000 G.P.M.



PEERLESS TYPE "A" SPLIT CASE

Capacities: up to 60,000 g.p.m. Single Stage—Double Suction. Embodies most advanced hydraulic design and efficiencies. Ball Bearing Type.

- Effectively used in all types of industries where high-grade pumping is needed under stress of pressures and high temperatures. Peerless Centrifugal pumps can be furnished in other than standard specification metals and dimensions for special pumping problems.

Learn of the many advantages gained when you pump with a Peerless. Write Today.

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FOOD MACHINERY CORPORATION
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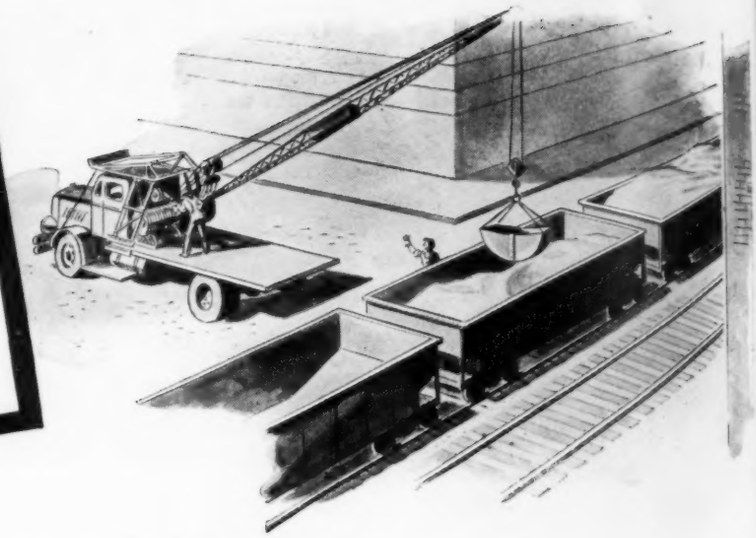

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$70,000,000.00 OF INDUSTRIAL CHEMICALS

ONCE-IN-A-LIFETIME BUYS!

- Acids
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- Dyes
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Ready for quick sale in large quantity, many *at prices well below market*, are hundreds of items in the government's huge war surplus stockpile of industrial chemicals. If you need industrial chemicals of any kind, *in any amount*, it will pay you to get in touch with your War Assets Administration Regional Office. (Listed below). Among these chemicals are some at present in short supply from usual sources. If your regional WAA office does not have them, the Inter-office Product Location Service has been set up to locate them *fast* if available anywhere in the U. S. *All* items are ready for quick sale, under credit terms if desired. Write now—or use the coupon below.

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Please supply without obligation, prices, available quantities and locations of items written in below:

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All chemicals are subject to priority regulations. VETERANS OF WORLD WAR II are invited to be certified at the War Assets Administration Certifying Office serving their area and then to purchase the material offered herein.

Exporters: The War Assets Administration solicits your inquiries. Communicate with your foreign clients promptly.

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Pangburn Joins Ellwood Allen Organization

Weaver W. Pangburn, formerly with the National Recreation Association, has become associated with the F. Ellwood Allen Organization, 101 Park Ave., New York, as recreation consultant.

Weaver W. Pangburn

This organization is carrying on the work which Allen and Pangburn initiated and which covers long-range plans for recreation properties serving Baltimore, Md., Roanoke and Alexandria, Va., Portland, Me., and Kearny and Belleville, N. J. At present they are engaged in similar work for Fayetteville, N. C.

The functional design and planning of war memorial outdoor recreation areas, community buildings, and special recreation facilities are also part of the service of this organization.

Mr. Allen has had many years' experience in the planning and recreation field, including work with the National Resources Board, the National Forest Service, and the National Recreation Association. Mr. Pangburn was retained by the National Capital Parks and Planning Commission for the legislative and educational work which led to the establishment by Congress of a unified recreation department for the District of Columbia. While with the National Recreation Association he made numerous studies of the various phases of public and private recreation and served as consultant to municipal recreation departments in many major cities. He is editorial consultant on Parks and Recreation for the *Municipal Year Book*, for which he has contributed the annual review of trends in these fields for several years, and of *Public Management*. He is the author of various pamphlets, books, and magazine articles.

Caterpillar Offers New Books

A 12-page color booklet just off the press, entitled *The Taxpayer Profits*, stresses the development and preservation of a higher standard of living in hundreds of American towns and cities through the use of "Caterpillar" equipment.

Some of the benefits highlighted are items such as a reliable water supply, low-cost, dependable power and light, better streets, improved sanitation, more beautiful parks, and prompt, efficient snow removal.

For a copy of this book ask for Form 9492 from Caterpillar Tractor Co., Peoria 8, Ill.

This new HEIL
COLECTO-PAK
Municipal Refuse Disposal Body

gives you

Bucket unloads in less than a minute under fingertip control.

Automatic, hydraulic-operated packer plate packs 20 yds. in a 10-yd. body.

Tapered body construction assures speedy discharge regardless of compression.

★ Low loading height
★ Double capacity
★ Complete enclosure
★ Easy maintenance

The all-enclosed, water-tight Heil Colecto-Pak is the answer to your search for a modern method of speeding-up, simplifying, and improving garbage collection and disposal.

This unit has a ¾-yard loading bucket at a 35-inch height making it extra easy to load. This "power-lifted" bucket deposits load and returns to starting position in less than a minute. At the same time the hydraulic-operated packer plate is compressing the material down toward the discharge end. It is possible to compress 20 yards of wrapped garbage into this 10-yard body.

With this unit your city has a clean, sanitary means of collecting garbage with none of the unsightly and unsanitary features imposed by "open body" collectors. Your city can feel proud of its advanced thinking in purchasing a Heil Colecto-Pak.

DH-114

Write for bulletins.

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The Stewart Iron Works Company
CINCINNATI, OHIO

TO OFFICIALS INTERESTED IN JAIL AND PRISON CONSTRUCTION

Stewart has been building jail and prison equipment since 1886.

Our engineers will gladly give architects, builders and penal authorities the benefit of many years' experience in the jail building field. Layouts, estimates and complete information on grating and plate cells, doors, lock and locking devices, bunks, tables, seats and every accessory for new construction or the remodeling of old buildings. Stewart Non-Climbable Chain Link Wire Fence is ideal for jail yards and exercise areas.

Write today! There's no cost or obligation for plans, specifications and estimates. Address The Stewart Iron Works Co., Inc., 1321 Stewart Block, Cincinnati 1, Ohio.

Stewart
Jail and Prison Specialists Since 1886

Cast Iron Pipe

PLAIN CAST OR SPUN CENTRIFUGAL

Cast Iron Pipe and Special Castings, Bell and Spigot, Flange, Flexible Joint, Culvert, Milled and Plain End Tubes, Cylinders, Flanged and Bell and Spigot Fittings, High Pressure Fire Service Pipe, Warren Short Body Specials, Threaded End Pipe.

Size 2 to 84-inch

Pipe manufactured in accordance with standard specifications adopted and approved by water works associations and engineers.

Warren Foundry & Pipe Corp.
11 Broadway, New York City

Warren Pipe Co. of Massachusetts
75 Federal Street, Boston, Mass.

Standard gate valves can be inserted in any line-up up to 48" in size without interrupting the flow. The procedure is simple, fast and economical. The nuisance of shutting down the line and the expense of dewatering is entirely eliminated.

SMITH Valve Inserting Machines can be purchased or rented. Write for information. 8

THE A. P. SMITH MFG. CO.
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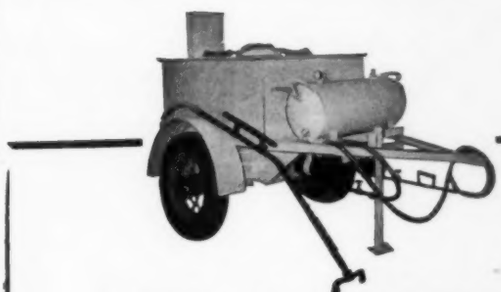


ASPHALT and TAR KETTLES
Fire Proof—Oil Burning
Hand and Motor driven spray.
Many sizes. Write for catalog.
Elkhart White Mfg. Co. Indiana

PROPER HOUSE NUMBERING

There is a right and a wrong way to plan your house numbering program. Let us help you as we have helped other municipalities.

Premax Products
Division of Chisholm-Ryder Co., Inc. 3838 HIGHLAND AVE., NIAGARA FALLS, N.Y.

Photography Saves Recorder's Time and Money

In the Recorder's Office at Blair County, Pa. (left to right), Thomas G. Peoples, County Register and Recorder; and Commissioners Herbert S. Bolger, Forrest L. Bartholomew, and Milton S. Emeigh watch Marjorie Lewis operating their new Rectigraph photo-recording equipment.

Photographic reproduction of legal documents is boosting administrative efficiency and saving tax dollars in a rapidly increasing number of localities throughout the nation, the American Municipal Association reports.

Faster and more economical reproduction of wills, deeds, and service men's discharges is being achieved through use of (1) photo-recording on sensitized paper at about full size, and (2) microfilming to reduce the size of records and make possible more convenient reference, shipment, and storage.

The Rectigraph photo-recording equipment recently installed in the Blair County, Pa., recorder's office by The Haloid Co., Rochester, N. Y., furnishes a typical example of the first method. The equipment is completely automatic, uses sensitized paper but no film, and delivers fixed, washed, and dried prints.

Reproduction of this process is about fifteen times as fast, figured on a man-hour basis, as ordinary office methods. The Blair County equipment, operated by two persons, can reproduce as many as six hundred pages a day, whereas five typists reproduced with accuracy not more than ninety pages a day in the same office before photo-recording was installed.

Delays caused by the necessity of legal recording and return of original documents to their owners are eliminated by photo-duplication. The complete recording process takes only three to six minutes. The Blair County office currently is recording seventy-five or more military service discharges a day, as well as other legal documents.

Photographic reproduction assures accuracy by copying the original document exactly as it is composed in a single operation, eliminating the possibility of typographical errors.

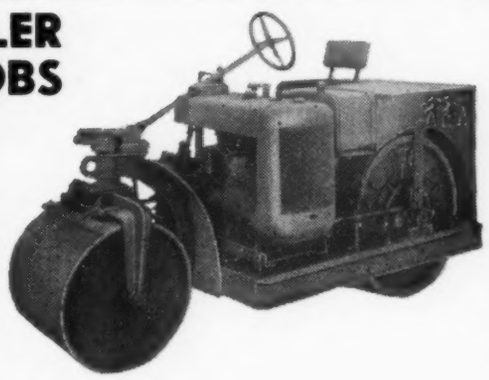
Money for labor as well as time is saved by photo-recording. In Milwaukee County, Wis., labor costs were cut from seventy-five cents per document recorded by the old method, to twenty-two cents per document by the photographic method. In Jefferson County, Ky., recording costs were cut from $2,700 a month to $800 a month by conversion to the photographic method.

Microfilming, which was used for V-mail service overseas during the war, is being used in many municipal recording offices. Its primary advantage, in addition to virtually automatic accuracy, is its compactness.

A TOUGH ROLLER FOR TOUGH JOBS

Pierce-Bear 3½-5 Tons, Variable Weights

Engineered for economical operation where the going is tough. Compact, easy to operate. Rear roller gives heavy duty compression. Built-in water tanks for wet rolling. Powered with Allis-Chalmers Industrial Heavy Duty Model "B" gasoline engine. Write for details.



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LEWIS MANUFACTURING COMPANY

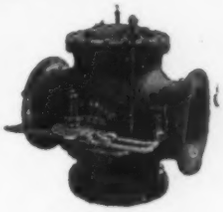
416-431 Hoefgen Ave. SAN ANTONIO 6, TEXAS Phone Garfield 6137 or 8931

ROSS Automatic Valves

1879

Also manufacturers of float valves, pressure-reducing valves, relief valves and back pressure valves.

No distribution system is better than the valves that control it —



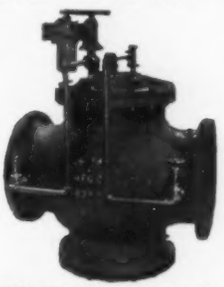
ALTITUDE VALVES

For control of elevation and heads into and out of tanks, basins and reservoirs.

1. Single acting.
2. Double acting.
3. Combination assembly for three or more automatic operations.

COMBINATION VALVE

Combination automatic control both directions through the valve. A self-contained unit, with three or more automatic controls.



REMOTE CONTROL VALVE

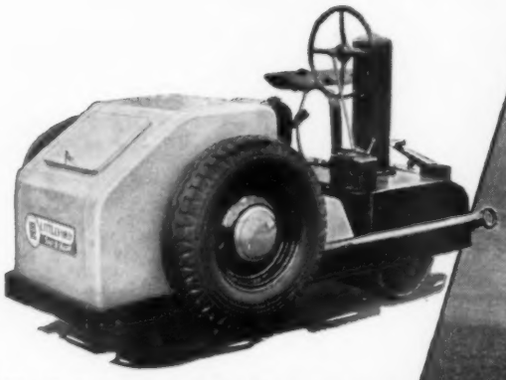
Electric remote control—solenoid or motor can be furnished.

Adapted for use as primary or secondary control on any of the hydraulically controlled or operated valves.

Write today for catalogs and details to fit your particular system.

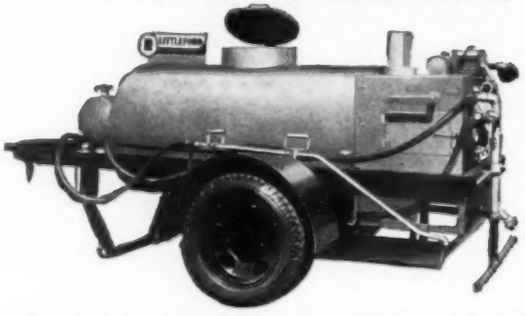
ROSS VALVE MFG. CO.
INCORPORATED
P. O. BOX 596, TROY, N. Y.

WHEN ROAD REPAIR IS NEEDED HERE'S THE EQUIPMENT FOR THE JOB

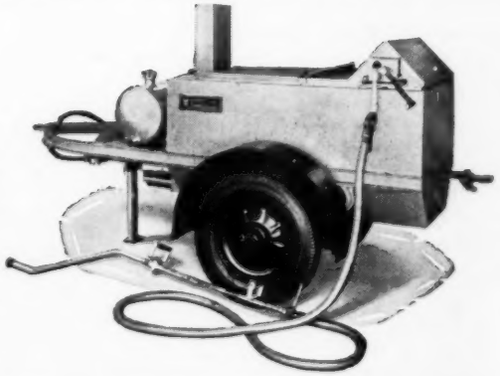


TRAIL-O-ROLLER

101 UTILITY SPRAY TANK



84-HD ASPHALT KETTLE



These Littleford Units are the modern efficient, low-cost operating units, designed for the big road-repair program ahead. The 84-HD is the fastest heating Kettle made today, having patented Littleford features—The 101 Utility Spray Tank combines three units in one—Trail-O-Roller is the portable roller that gives as much compaction as a five-ton tandem.

With units like these on the job, it's easy to get that repair job done permanently. Littleford Equipment has been tried and tested—make no mistake when you purchase your next repair outfit—make it a Littleford.

BLACK TOP ROAD MAINTENANCE EQUIPMENT LB SINCE · 1900

LITTLEFORD

LITTLEFORD BROS., Inc.

500 E. PEARL ST., CINCINNATI 2, OHIO

Diesel Engine-Driven Arc Welder

Hobart's new diesel engine-driven arc welder repairs a municipally owned grader in the town of Troy, Ohio.

A new diesel engine-driven arc welder of 300-ampere capacity, especially made for use where electric power is not available and a minimum operating cost is desired, has been introduced by The Hobart Brothers Co., Hobart Square, Troy, Ohio.

Powered by a two-cylinder, unit-injection diesel engine that features oil cooling, displacement blower, and fuel filtration, the welder is said to cut fuel cost considerably. The engine has a 4½-in. bore and a 5-in. stroke, and is rated 47 hp at 1,450 rpm.

Equipped with a patented "Multi-Range" dual control and exclusive remote control, this new welder permits the operator to make fine volt-ampere adjustments right at the work, eliminating unnecessary steps. Its 1,000 combinations of voltage and amperage permit him to select just the right arc intensity. Other features of the welding generator include separate excitation and two-way ventilation.

The engine controls are located alongside the generator control cabinet. Engine speed is controlled by a governor and an idling device that automatically shuts down the diesel engine to idling speed 12 to 15 seconds after the operator has stopped welding. When welding, the governor controls the engine speed without interference from the idling device.

This welder weighs 2,637 lbs. dry and can be readily mounted on wheels, trailer, or truck.

Clay Pipe Manufacturers Meet

The Clay Sewer Pipe Association of Columbus, Ohio, acted as host recently for more than one hundred clay pipe manufacturers and officials, members of the National Clay Pipe Manufacturers, Inc., who attended a meeting at Cincinnati recently to discuss the industry's part in the national building program.

In a discussion of the building program, manufacturers pointed out that production of vitrified clay pipe is at its highest point in history. Even greater production was forecast not only to assist veterans' housing but to build new factories and to provide municipal sewage facilities for the increased urban population brought about by new housing.

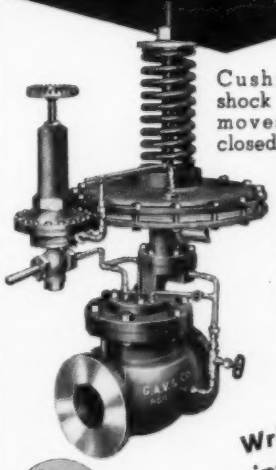
Manufacturers also discussed standardizing specifications on perforated pipe and flue lining and improving them in extra-strength pipe.

Fred Cresswell, manager of NCPMI, reviewed trends in the nation's capital and told how the association is helping the government with its sewage and drainage problems.

E. K. Sheffield, president of NCPMI, concluded the meeting by stressing the values of cooperation among manufacturers in the association's advertising and promotional campaigns.

GOLDEN-ANDERSON

Single Acting Differential ALTITUDE VALVES



Cushioned against shock or jar as valve moves into open or closed positions. Needle valve control will instantly regulate speed of operation to existing pressure condition. 150 lb. to 400 lb. working pressure.

Write for Descriptive Catalog

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GOLDEN-ANDERSON Valve Specialty Company PITTSBURGH 22, PA.

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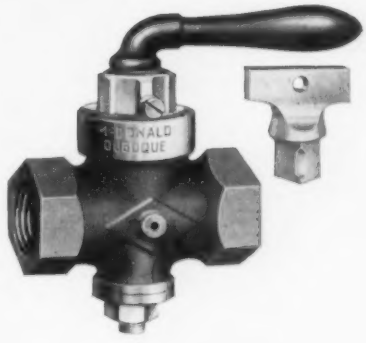

and the Diamond Line . . .

Since 1856, the trade has known that they can be sure of the very highest quality, dependable service and expert craftsmanship when they use items from McDonald's well-known Diamond Line. And this vast experience has been passed down, with improvements, through the years to set the pace in modern water works goods. One of these items is illustrated—Plate E-2832, McDonald Diamond Patent Cap Stop and Drain, flat way, high pressure with malleable tee or lever handle, right or left. Sizes ½, ⅝, ¾, 1 and 1½ inches. Can also be furnished in a stop pattern. Write for information.

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A. Y. McDONALD MFG. CO.
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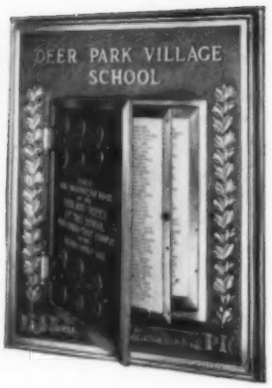
BRASS GOODS • PUMPS • OIL EQUIPMENT



NEW

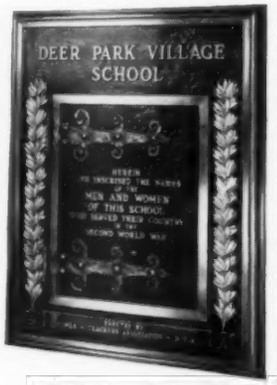
"OPENING DOOR"

Roll of Honor

Bronze door partly open. Shows swinging sheets which form the pages of this permanent, all bronze book of remembrance.

New and distinctive—Cincinnati Metalcrafts' "Opening Door" Roll of Honor is the most practical and economical answer to the memorial problem. It is all bronze, therefore everlasting. Easily installed in inside or outside walls. Its swinging bronze sheets open like the leaves of a book and can accommodate up to 4400 names.

An important feature of the "Opening Door" Roll of Honor is that extra bronze sheets may be added after memorial is erected. This is an exclusive Cincinnati Metalcrafts' design.



With the heavy bronze door closed every detail is symbolic of the perfect tribute.

GOLD STAR MEMORIAL

In special tribute to those who sacrificed their lives, a Gold Star memorial makes available the rich dignity that only bronze can offer. It is personalized with the name and crest of your organization, as well as the names of those honored. It can include a bronze vase for flowers to be used on special anniversaries. Also offered in a special Church design using the cross of your faith. Another exclusive Cincinnati Metalcrafts' Memorial.

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Please write, stating your organization, the number of names to be honored and the desired inscription. We will be glad to send you literature and our recommendation for the type of memorial best suited to your needs.

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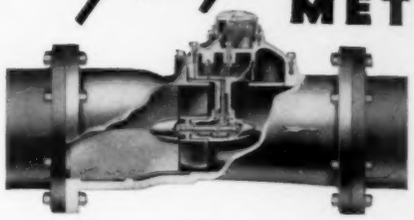
BUILDERS Propeloflo METER



When You Drain the Line You Drain the Meter

Builders Propeloflo Meter, which operates with such low pressure loss and high accuracy over a wide range, pays extra dividends in cold weather. This meter, of streamline Venturi design, has no pockets or traps to hold water . . . when the line is drained the Propeloflo, too, is completely safe from freezing. Accurate metering is resumed, without adjustment or attention, when the line is refilled. The Propeloflo is entirely self-contained and can be installed in any position as easily as a corresponding length of pipe.

For Bulletin 350A, address Builders-Providence, Inc., (Division of Builders Iron Foundry), 18 Codding St., Providence 1, R. I.

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Blueprints Speed Planning

Blueprint machines made by Wickes Brothers, left, are of two types. Model D makes blueprints only—Model E makes reproductions from tracings on vellum or line or from Van Dykes and other transparencies.

The blueprint and copying machines manufactured by Wickes Brothers, Saginaw, Mich., should fill a real municipal planning need. Particularly adaptable for use in city engineers' offices are the Wickes Model D and Model E machines. Model D makes blueprints only, has an average output of 250 square feet per hour, has low cost and negligible consumption of current, and is particularly useful when there is need for only a limited number of prints per day.

The Model E blueprinter, identical in appearance but of a different internal design, is used for making reproductions from tracings on vellum or linen or from Van Dykes and other transparencies. Its average output runs to 500 square feet per hour.

Police Departments Report On Life of Storage Batteries

This police squad car of Mahwah, N. J.; completed 198,000 miles of service on a single battery. The Chevrolet, equipped with Autolite generator, Hand battery, and 25 watt 2-way radio, is on 24-hour duty and covers about 100 miles a day.

The Hand Laboratory, Nyack, N. Y., states that reports coming in from widely separated sections of the country indicate that the Hand police battery is lasting from 80,000 road miles to 220,000 road miles.

Three police departments report as follows on the extensive mileage from these storage batteries:

(1) Police department of the Township of Haverstraw, N. Y.—220,000 road miles from one battery. Battery outlasted two cars. Cars provided with heavy-duty police generators, two-way radios. Battery location: in the trunk beside the radio.

(2) Police department of the village of Piermont, N. Y.—180,000 road miles from one battery. Outlasted two cars. Cars provided with heavy-duty police generators, two-way radios. Battery location: in trunk beside radio.

(3) Police department of Mahwah, N. J.—188,000 road miles from one battery. Battery outlasted two cars. Cars provided with heavy-duty police generators, two-way radios. Battery location: in trunk beside radio.

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To demonstrate the Ozone process and to investigate treatment problems on the spot, we now have available a mobile laboratory and treatment unit, completely self-contained and mounted in a trailer.

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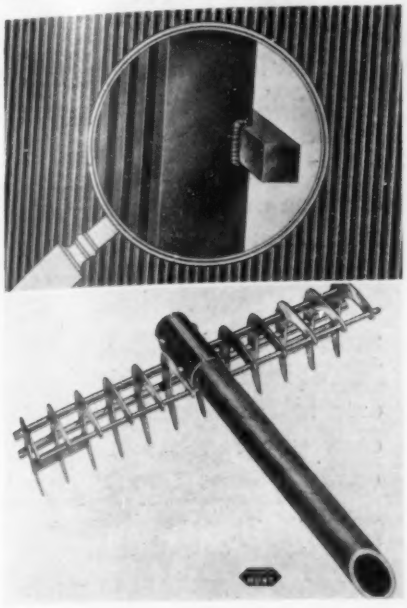
Improved Trash Racks and Rakes for Water Intakes



ABOVE: *The new welded power saver trash rack.* BELOW: *Light tubular handle trash rake used with the rack.*

New developments in trash racks and rakes have been announced by the Rodney Hunt Machine Co., Orange, Mass.

The new Power Saver trash rack has an improved all-welded back bar which surpasses the old spool-and-rod arrangement both in strength and in the ease with which it can be cleaned. The racks are heavily covered with a water-resistant black asphaltum paint to protect them against corrosion.

The Power Saver stainless steel trash rake, built with extra strength, uses specially formed basket-type teeth spaced to engage the slats of the rack correctly. It is equipped with double length guards to prevent interference between the teeth and the back bar of the rack. The rake head, combined with the "Feather-lite" tubular handle, provides a buoyancy air chamber to make the rake light in weight. Because of its self-lifting feature, the rake requires only a small pull to bring it to the top of the rack.

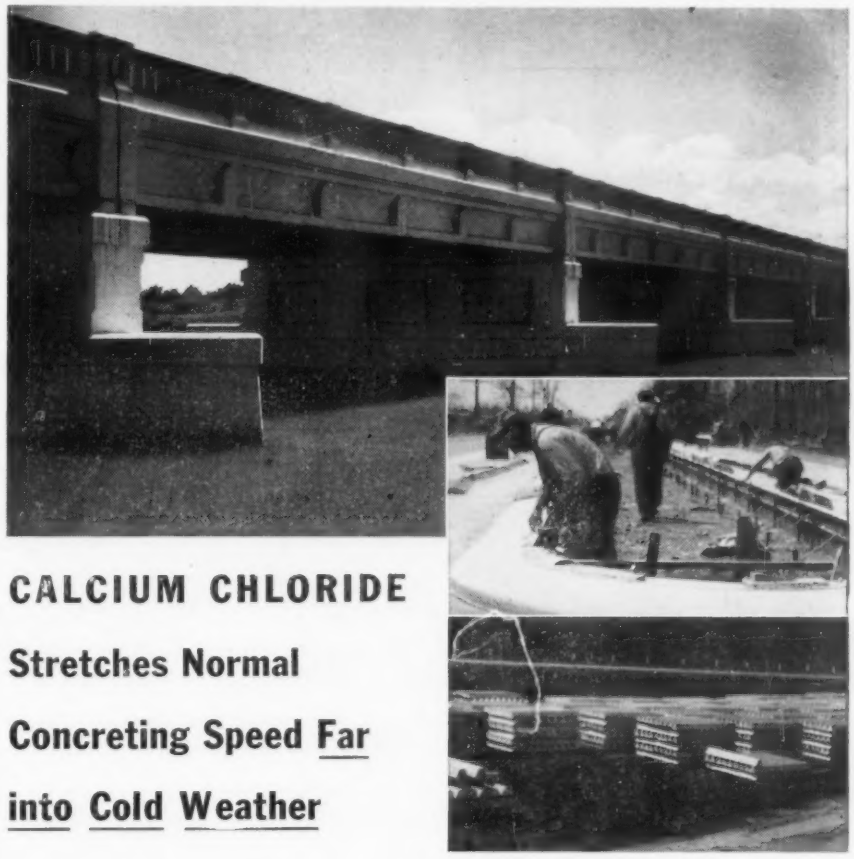
Microfilming Described

"Fifty Billion Records Can't Be Wrong"—a new booklet explaining the fundamentals of microfilming—for preserving valuable records, saving costly storage space, speeding up reference to office records, and for making facsimile prints of "files on film" has just been published by the Recordak Corp., subsidiary of Eastman Kodak Co., located at 350 Madison Ave., New York, N. Y.

Documents up to 14 inches in width and unlimited in length are photographed on 16mm film. Recordak models are available only on a rental basis, and installations include a companion film reader for convenient reference to film records on the desk top. As many as 3,000 legal-size documents or 7,500 reference cards, 3 by 5 inches, can be recorded on a 100-foot roll of 16mm film, effecting a cut of 98% in filing space. Moreover, if desired, both sides of the document can be photographed automatically in one operation, the reverse side following the face.

For microfilming bound volumes and large drawings, charts, and diagrams, 35mm film is used in Recordak Micro-File equipment. These units come in floor and table models for fixed installations, and a portable model for field use. Companion film readers for viewing 35 mm microfilm include a floor model and a portable projector for field use. There is also an enlarger which makes facsimile prints of drawings and documents on the spot.

Closing the book is a description of the special Recordak microfilming services. The Facsimile Service provides paper prints of lengthy reports, card files, and other business records in any quantity. The Newspaper Service microfilms current and back issues to protect them against loss from deterioration and fire. Libraries and historical societies use positive film prints of these compact records instead of the bulky originals. The Microfilming Service aids municipalities whose volume of work does not require their own installation of microfilming equipment.



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PUBLIC SERVICE MODEL

The new Parsons 221 Trenchliner, public service model in the Parsons line of trenchers, sidesteps surface obstruction as close as 10" to either side of the projected trench. Boom shifts from side to side across entire width of boom carriage. Easy to shift, because it rides smoothly on big diameter rollers. Arc type spoil conveyor reaches up 6'9", easily dumps into 1½ ton trucks. Telescoping ladder type boom can dig over and under obstructing pipes in trench, virtually eliminating hand work.

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KWIK-MIX BITUMINOUS NON-TILTING MIXER

● An End Discharge mixer for applying cold or hot laid bituminous mixtures to new surfaces for re-facing and for maintenance. The wide, quick acting discharge gate of the non-tilting drum reduces the time between batches. This light weight, portable unit can be quickly spotted and because of the end discharge advantage, the mixer can be conveniently pulled away from the discharged material. Equipment includes two burners which can be easily removed for controlling temperatures.

Write for Catalog BAC

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Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Mud-Jack raises sunken concrete walks, curbs and gutters, driveways, streets, and airport runways eliminating reconstruction costs. Write for the free illustrated handbook "How to Detect and Correct Pavement Slab Pumping."

KOEHRING COMPANY
Milwaukee, Wisconsin (10)

MUD-JACK METHOD

Robinson Completes Twenty Years with G-E

W. H. Robinson, Jr., manager of the advertising division of the Lamp Department of General Electric Co., with headquarters at Nela Park, Cleveland, Ohio, has a twenty-year background of lamp and lighting experience highlighted by a succession of advancements with General Electric.

W. H. Robinson, Jr.

Mr. Robinson attended Massachusetts Institute of Technology, where he received his Bachelor and Master of Science degrees. He joined the street lighting of General Electric at Lynn, Mass., in 1925, and did special lighting sales work for ten years at Schenectady, New York, Chicago, and Los Angeles. In 1935 he was appointed District Engineer for the Los Angeles office of G-E's Lamp Department. The following year he was made supervisor of Hollywood studio lighting and lamp sales; and in 1939 he was advanced to the post of assistant manager of the South Pacific Sales District.

Transferred to Nela Park headquarters in 1942, he was placed in charge of activities in the Lamp Department's war program of conversion from lamp making to electronic tube production for radar and other military needs. In May 1945 he was named sales manager of electric discharge lamps, and in June he was appointed manager of the advertising division.

During the past several years he has worked closely with members of the advertising and sales divisions in the formulation of wartime lighting programs and has contributed much to activities devoted to wider and more intelligent use of G-E fluorescent lamps.

Engineering Firm Announces New Appointments

The engineering firm of Robert W. Hunt Co., A2200 Insurance Exchange, Chicago 4, Ill., has announced the following appointments:

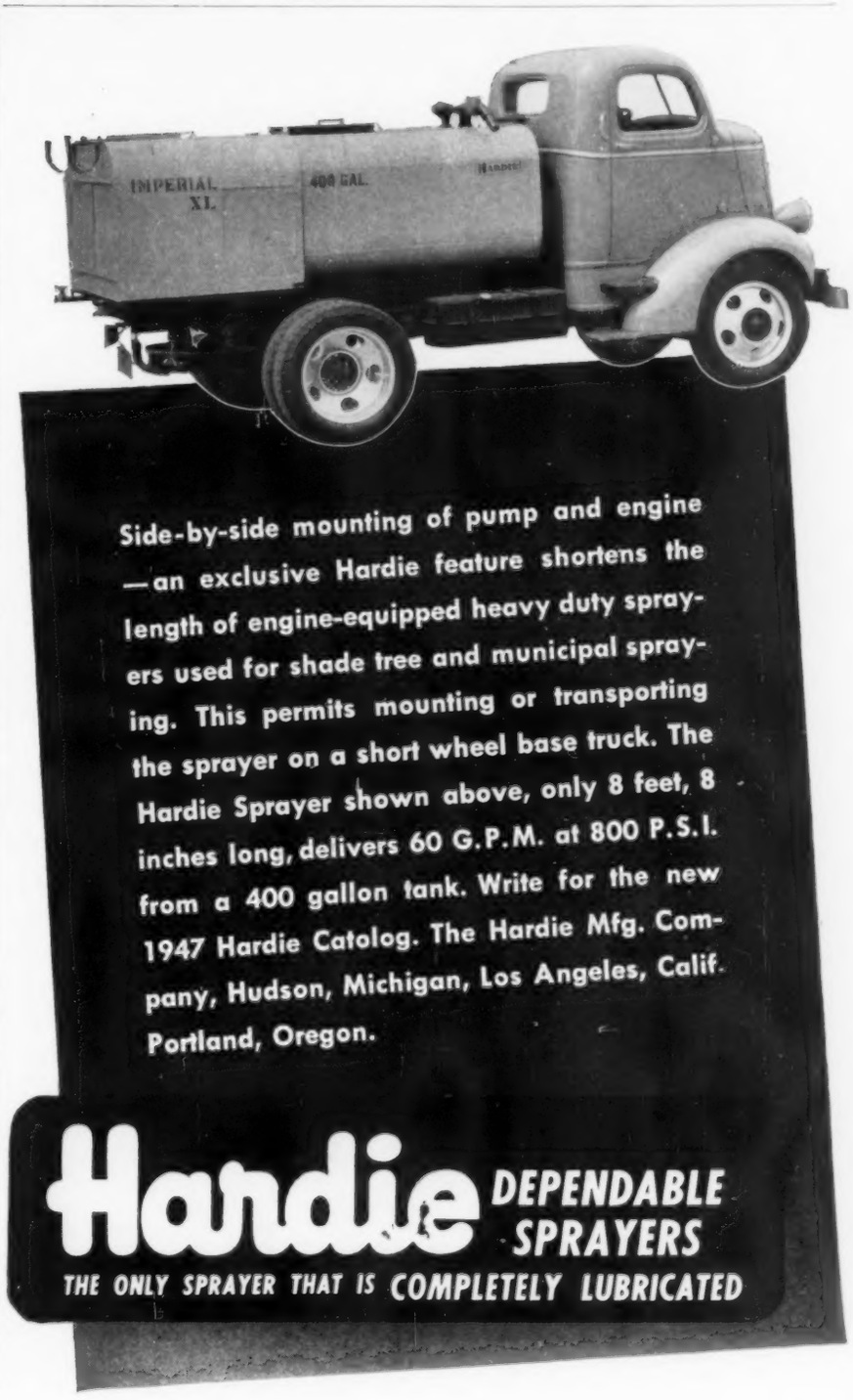
D. W. McNaugher, Jr., vice-president, has in addition been made treasurer. S. C. Sexauer, former assistant secretary, has been named secretary of the company.

Park and Recreational Consultants

Tam Deering and Associates has recently established offices at 1101 Vermont Ave., N. W., Washington 5, D. C., and is offering to federal, state, and municipal agencies, as well as to citizen groups, a park and recreation planning consultation service.

Mr. Deering's field covers park, building, and area layouts, plans for "living war memorials," and peacetime plans for promoting better living. His program of work calls for analysis of the needs of the community, including facilities, organization, finances, program, and requirements of the community; interpretation and guidance in relating the findings to the solution of the problem; continued contact with the initiators of the survey through enlargement of the program and inauguration of new activities; adjustment of budget; relation of the demand for war memorials to the urgent need for civic recreation centers, swimming pools, and outdoor theatres; extended services and use of facilities through greater agency cooperation; and improvement of public relations.

Mr. Deering had had long experience in this field. For fourteen years he headed a municipal department carrying on functions of park and recreation administration. He spent, as well, five years with an association which laid the foundation for the acquisition of a system of public parks and beaches; five years as organizer and executive of public recreation programs; and two years as head-worker of a social settlement in a city with a population of one million.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Side-by-side mounting of pump and engine —an exclusive Hardie feature shortens the length of engine-equipped heavy duty sprayers used for shade tree and municipal spraying. This permits mounting or transporting the sprayer on a short wheel base truck. The Hardie Sprayer shown above, only 8 feet, 8 inches long, delivers 60 G.P.M. at 800 P.S.I. from a 400 gallon tank. Write for the new 1947 Hardie Catalog. The Hardie Mfg. Company, Hudson, Michigan, Los Angeles, Calif. Portland, Oregon.
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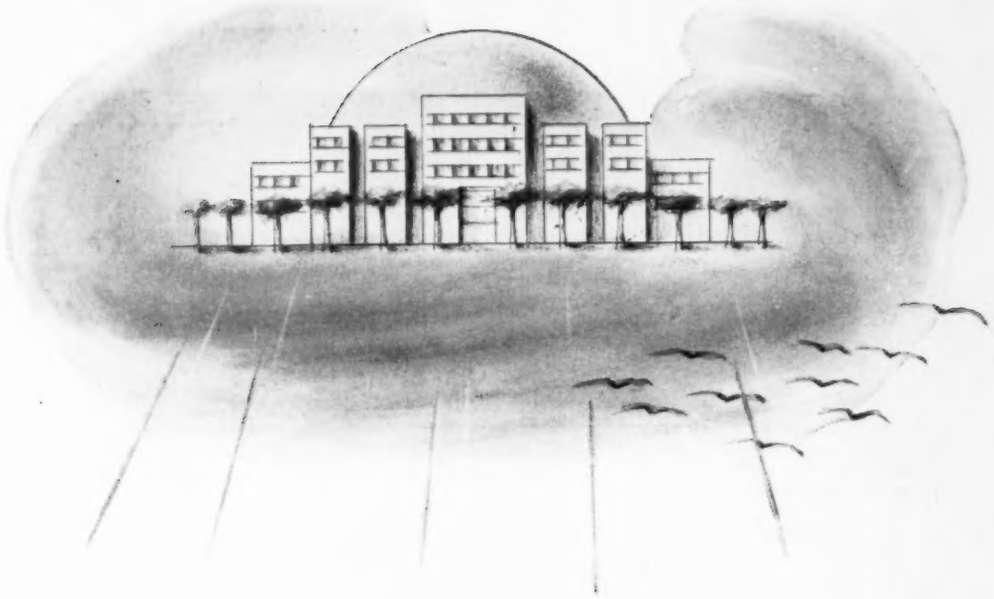
DEPENDABLE SPRAYERS
THE ONLY SPRAYER THAT IS COMPLETELY LUBRICATED



Dream Hospital...

The hospital depicted here exists only in the hearts of men and women who are losing the grim battle with cancer. And in the imagination of other men and women who want desperately to provide a haven for these victims in need of hope and care to sustain them in the few months or years still remaining to them.

Actually, there is not a single such hospital anywhere devoted exclusively to these unfortunates who *may* be beyond the help of medical sciences, but who are still certainly in urgent need of hospital care. And only a limited, woefully insufficient number of beds available to them in other hospitals.

During the long years of the war we gave up our plans for the building of this dream hospital... **Hope Institute.**

But now we are more than ever determined to see it rise in stone and steel. A model hospital, the first of its kind ... cheerful and comfortable in every way ... with more the atmosphere of an apartment hotel than of a cold institution. Where the patients, depending upon their condition, can enjoy the warm hospitality of lounge and dining room, or retire to the merciful seclusion of a private room.

What do we need to build this hospital now? **You.** Every dollar or penny you can scrape together for it. Whether or not you know this tragedy from bitter personal experience ... the tragedy of whole families, endlessly frustrated in their determination to care for a doomed member ... give as generously as you can. Please fill out the coupon below and mail with your contribution. It will make this hospital more than a dream.

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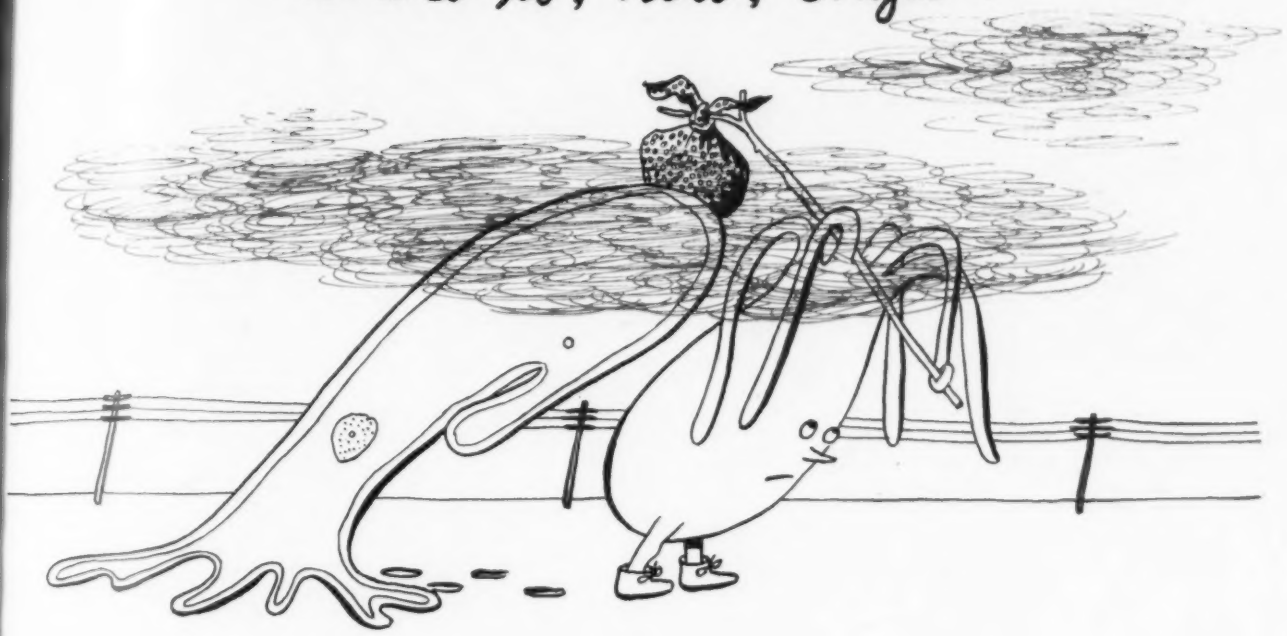

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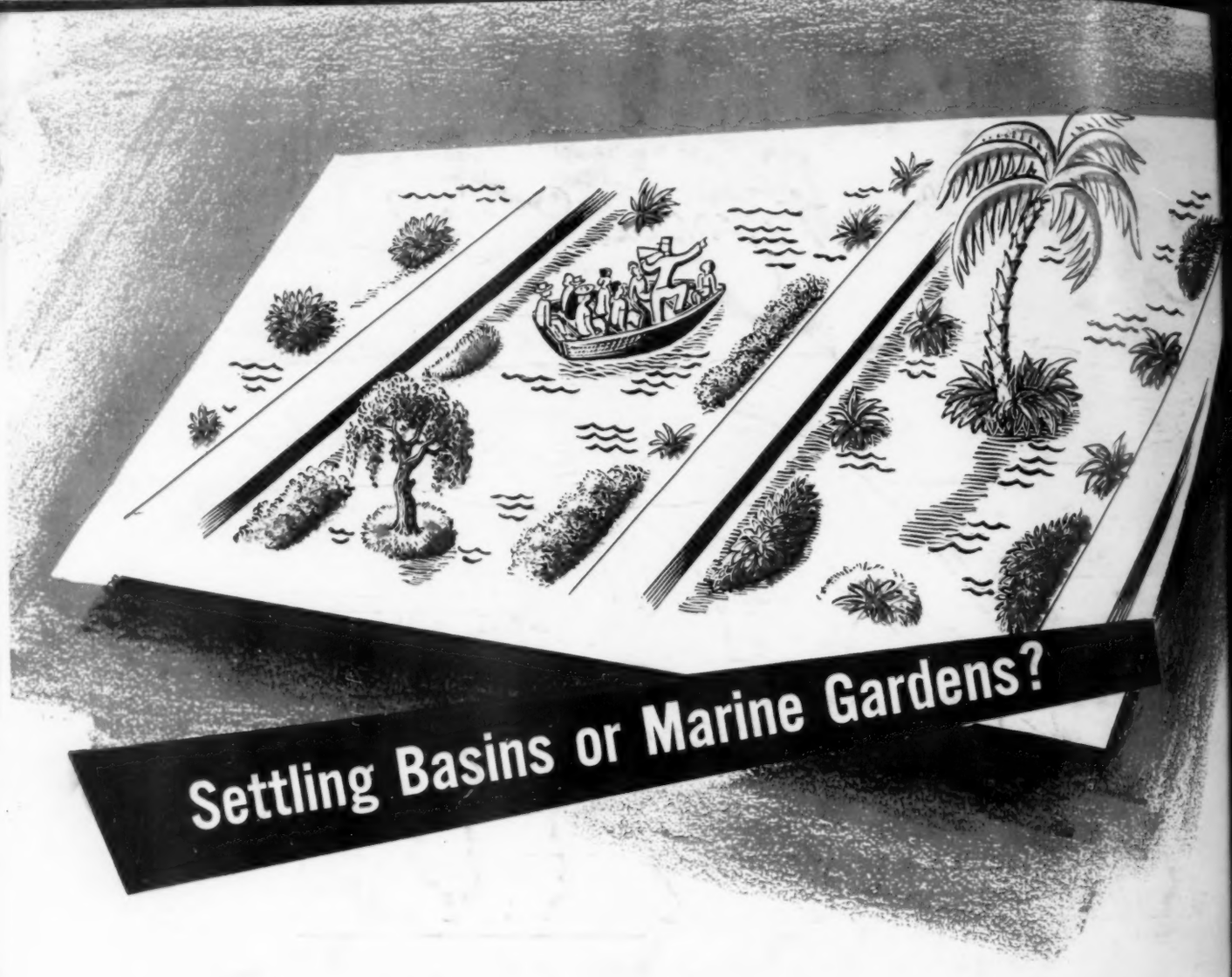
Soda Ash · Caustic Soda · Liquid Chlorine · Sodium Bicarbonate · Pittchlor (*Calcium Hypochlorite*) · Silene EF (*Hydrated Calcium Silicate*) · Calcium Chloride · Soda Briquettes (*Iron Desulphurizer*) · Modified Sodas · Caustic Ash · Phosflake (*Bottle Washer*) · CalceneT (*Precipitated Calcium Carbonate*)



Settling Basins or Marine Gardens?

That was a fair question at a 10 M.G.D. industrial water plant in 1943 when algal growths in settling basins and storage reservoirs were getting the upper hand. In 1944, however, the prechlorination dosage was increased to between 2.5 and 3.0 ppm. The free chlorine residual thus achieved has held down the algae and in addition has reduced slime problems throughout the mill.

But that's not all — the free chlorine residuals maintained by prechlorination carry through an open storage reservoir to give the added safety factor of a 0.5 ppm residual on the outlet.

This is just another instance of multi-purpose prechlorination—one of the many cases where it is helping to solve problems of algae control, coagulation, increased filter runs or improved water quality. Why not call your W & T Representative today and let him show you how prechlorination can be put to work in your plant.

"The Only Safe Water is a Sterilized Water"

WALLACE & TIERNAN
COMPANY, INC.

MANUFACTURERS OF CHLORINE AND AMMONIA CONTROL APPARATUS
NEWARK 1, NEW JERSEY • REPRESENTED IN PRINCIPAL CITIES

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The American City

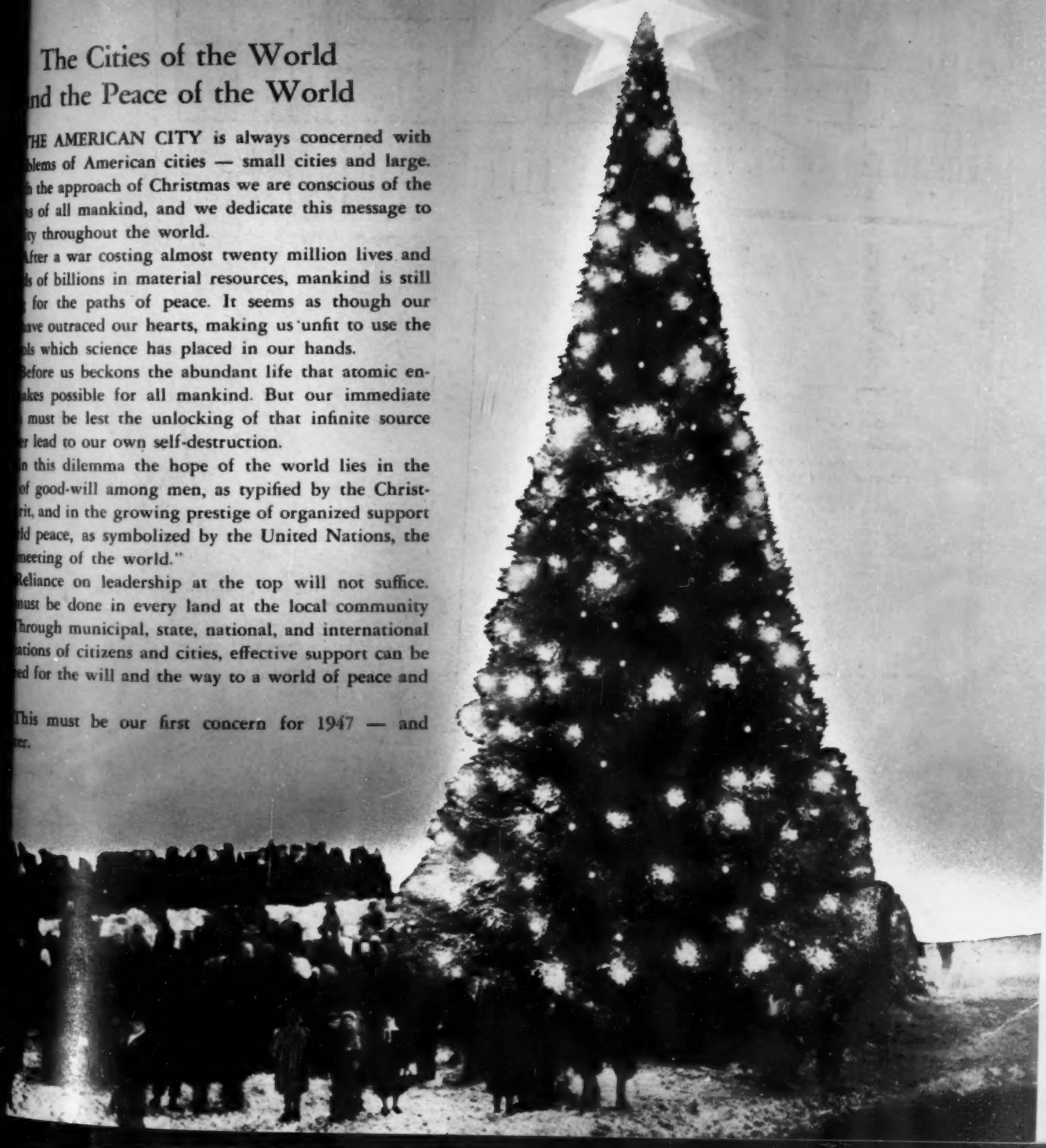
The Cities of the World nd the Peace of the World

HE AMERICAN CITY is always concerned with blems of American cities — small cities and large. the approach of Christmas we are conscious of the s of all mankind, and we dedicate this message to ty throughout the world.

After a war costing almost twenty million lives and ls of billions in material resources, mankind is still for the paths of peace. It seems as though our ve outraced our hearts, making us unfit to use the ols which science has placed in our hands.

Before us beckons the abundant life that atomic en- akes possible for all mankind. But our immediate must be lest the unlocking of that infinite source r lead to our own self-destruction.

n this dilemma the hope of the world lies in the of good-will among men, as typified by the Christ- rit, and in the growing prestige of organized support ld peace, as symbolized by the United Nations, the meeting of the world."

Reliance on leadership at the top will not suffice. must be done in every land at the local community Through municipal, state, national, and international ations of citizens and cities, effective support can be ed for the will and the way to a world of peace and

This must be our first concern for 1947 — and er.